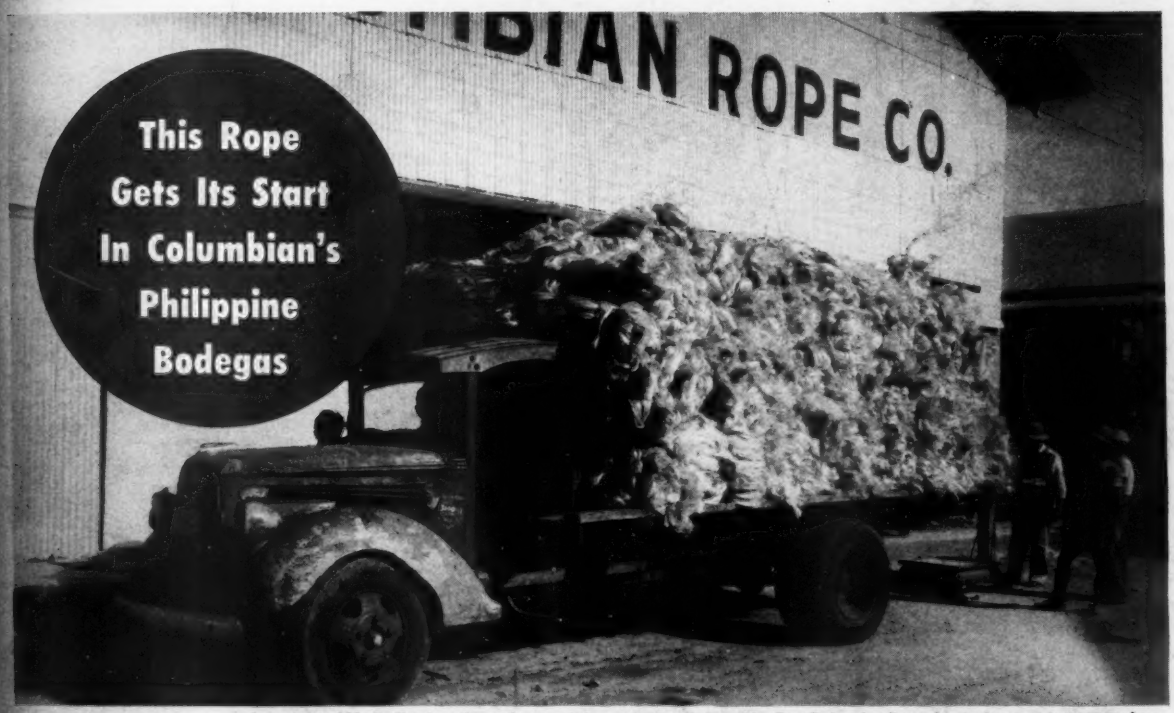
VM26 A9S

ATLANTIC FISHERMAN

JULY, 1948



Loose bales of Manila fibre from the provinces are being received at the Columbian Rope Bodega (grading and packaging plant) in the Philippines

Columbian Field Force Assures Best Manila Fibre For COLUMBIAN ROPE

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Entirely rebuilt since the war's devastation, Columbian warehouses and other facilities are completely modern, strategically located, and managed by experts in judging and buying fibre. Columbian maintains this on-the-scene service to guarantee the best in manila fibre supply. You benefit from this far-reaching program, get better, more dependable rope when you select COLUMBIAN — The Rope of the Nation.

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When you get right down to it: what is a dependable diesel?

It's an engine that gives reliable, day-after-day operation with minimum maintenance . . . the kind of operation Consolidated Lobster Company, Hancock Point, Me., gets from Cummins Diesels.

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The *Grace M. Cribby, Satellite, Fanny,* and *Consolidated* have been repowered with Cummins Marine Diesels.

Engine failures with highly perishable and valuable cargo can be extremely costly, but the performance of a Cummins Diesel in the *Grace M. Cribby* was so satisfactory that it led to the installation of Cummins Diesels in the three other lobster smacks.

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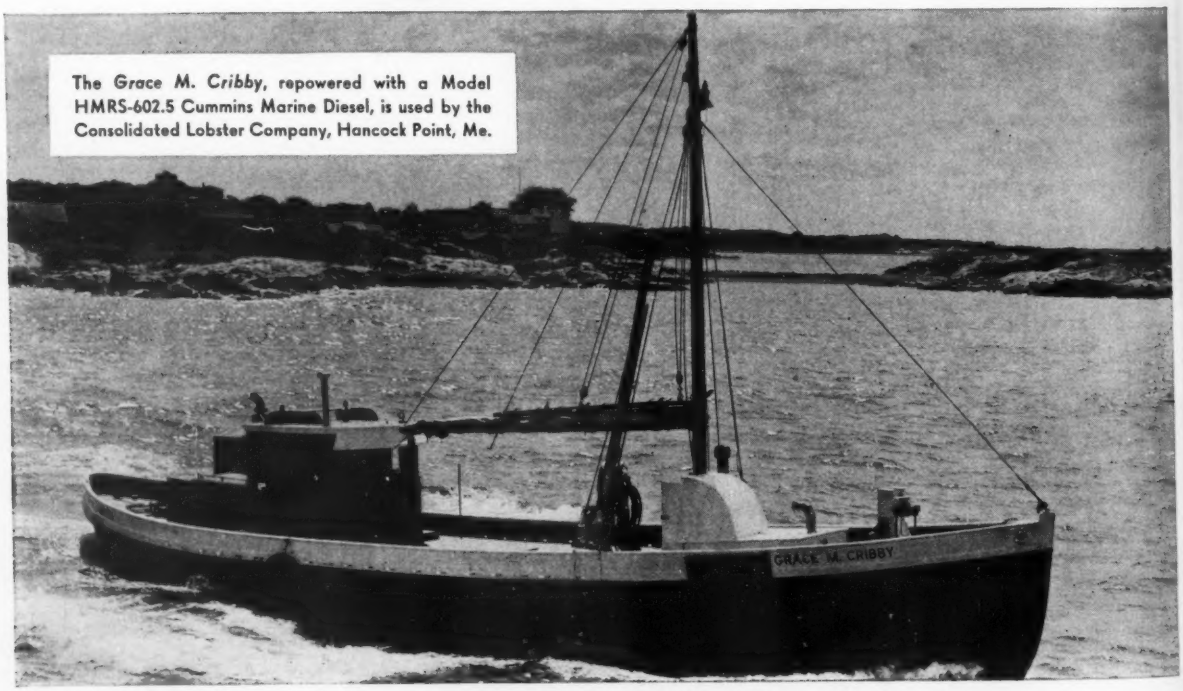

The *Grace M. Cribby*, repowered with a Model HMRS-602.5 Cummins Marine Diesel, is used by the Consolidated Lobster Company, Hancock Point, Me.

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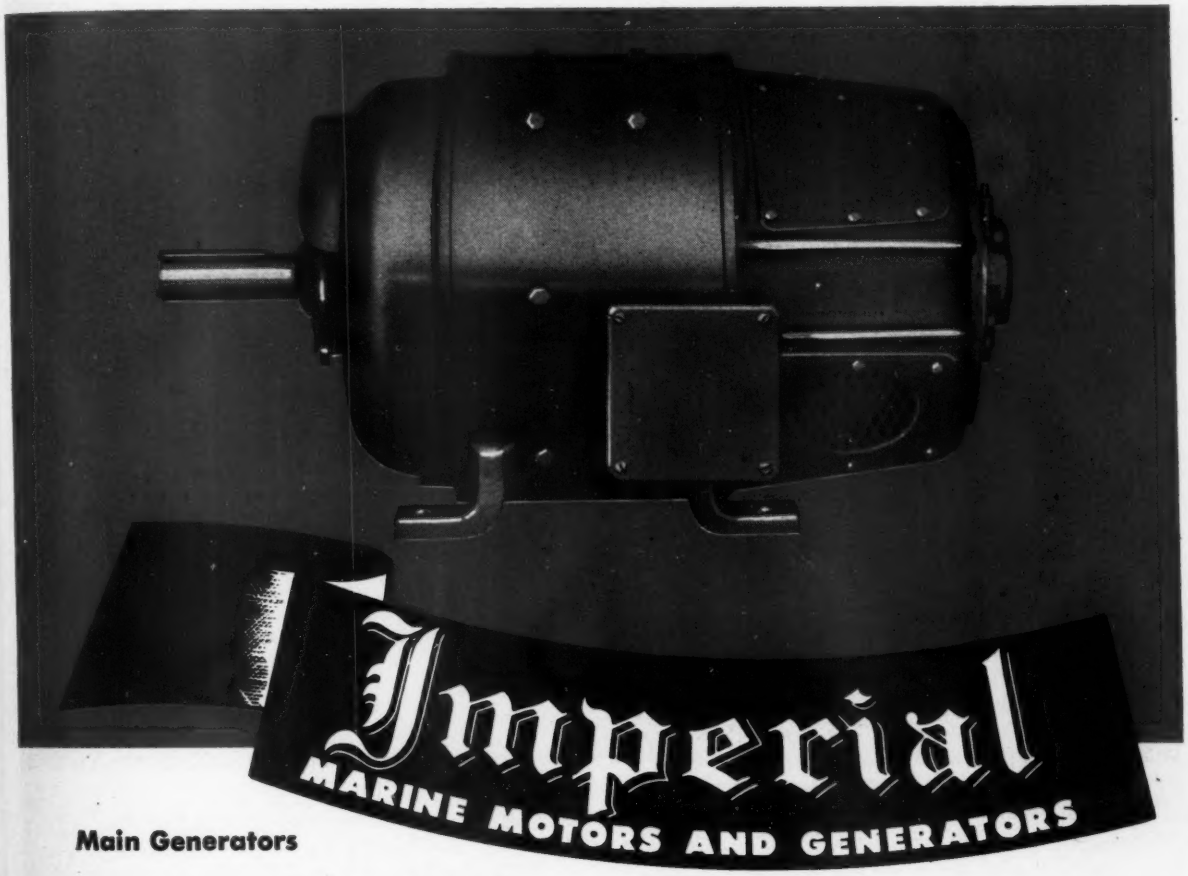

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MORE trawlers and draggers in the Atlantic fleet use Imperial marine motors and generators for dependable electric power than any other make. Imperial's rigid material and engineering standards plus almost sixty years of specialized motor-generator manufacturing experience is your assurance of equally satisfactory service. Write us about your needs.

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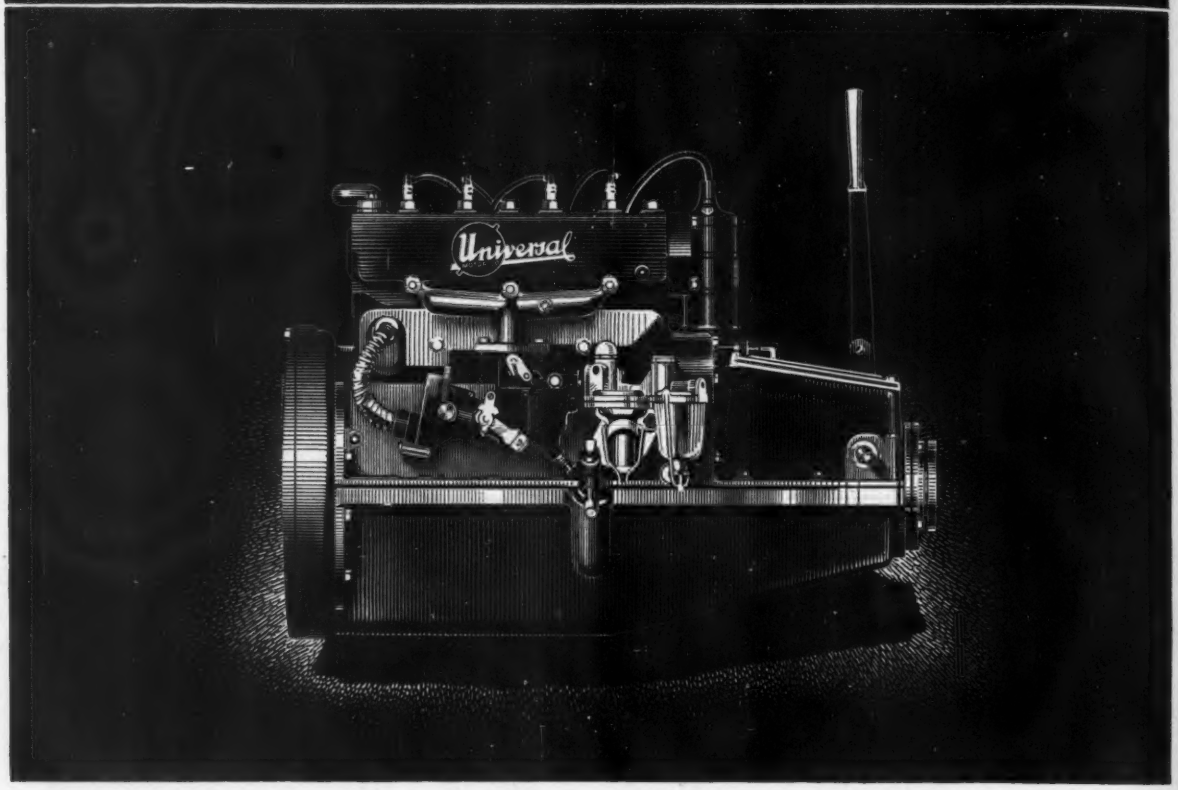
THE Universal Atomic Four



America's first and only *wholly* new postwar 100% marine motor! The Atomic Four is a revolutionary new four—smaller, more compact than you would believe possible. So powerful for its size, you will be amazed.

The Atomic Four is more than a new model—it's a completely new design, incorporating today's most advanced engineering features. It's a 100% marine motor—*built* for the sea, *not converted* for it.

The Atomic Four is a thoroughly proved motor. Hundreds of hours of continuous dynamometer testing plus months of grueling boat trials at the Universal "AquaLab" proclaim it America's most outstanding small marine motor achievement.

Now in production, the Atomic Four comes to provide you with the utmost in smooth, quiet, dependable marine power. And to do it with inches less and pounds fewer.

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SPECIFICATIONS

4 cylinder, 4 cycle, 25 horsepower
2.562″ bore, 3.125″ stroke, 64.46 cu. in. displ.
Length overall (direct drive) 26¾″, height above crankshaft, 13″, overall width 17¼″
Weight (direct drive) 315 lbs.

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ABOVE ALL—*DEPENDABLE* Universal 100% MARINE MOTORS

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THE WORLD'S LARGEST BUILDERS OF 100% MARINE MOTORS

ATLANTIC FISHERMAN

REGISTERED U. S. PATENT OFFICE

Serves the Commercial Fisheries of the Atlantic Coast, Gulf of Mexico and Great Lakes

CCA P. G. LAMSON, *President* GARDNER LAMSON, *Publisher* L. E. HALL, *Editor* NBP

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VOL. XXIX JULY 1948 NO. 6

Fish Stowage and Unloading Methods Need Improvement

During the last few years, there have been numerous improvements in the design, construction, and outfitting of fishing boats. It is apparent that a much more scientific approach is being given to fish production methods. Progressive operators are taking advantage of the many new items of equipment that make fishing safer, more efficient and less arduous.

However, advancement in the stowing and unloading of fish seems to have been limited. Generally speaking, fish hold design has changed little, and the methods of filling the hold and removing fish from the boat remain unchanged in most cases.

In the Maine sardine industry, the unloading of herring with suction pipes placed in the holds is being used successfully. Some of the oyster growers are using conveyor systems to remove oysters from the boat decks; and menhaden factories are employing conveyors for unloading catches.

But in most of the other fisheries, the time-honored method of hoisting out the catch in baskets is still employed. This operation in itself is not objectionable, but the necessity for forking fish from the hold into the basket is not desirable.

Aboard draggers and trawlers, after the fish are cleaned and washed, they are usually forked into the hold, where they fall to the bottom and then need to be forked into the storage pens. Some system should be evolved whereby after cleaning, the fish could be placed on a conveyor running to the hatch, from which an adjustable chute could carry them to the proper section of the hold.

While metal lined holds have been installed in a few boats, the wooden hold remains in general use. There should be a wider use of holds with either metal or plastic lining, which would give a smooth, easily washed surface that would insure maximum cleanliness.

Mechanical refrigeration, which thus far has been used very little on the East Coast, offers great possibilities; and the newly constructed, refrigerated Maine sardine carrier, *Mary Anne*, is expected to mark a trend in this direction. While some ice still may be needed to provide moisture, the use of mechanical equipment would greatly reduce the amount of ice required. Less ice would allow for more fish, and a system of circulating chilled water or brine might eliminate the need for ice entirely.

It would be desirable to devise a practical conveyor system which would take fish from the hold to the shore plant. The objection of having the ice mixed with the fish could be overcome by using a conveyor belt designed to let the ice particles fall through as the fish were carried along.

In most cases it is necessary to weigh the fish at the dock before they go to the plant. While this usually requires another handling and possible use of forks again, a method has been developed whereby the fish are dumped from the boat into a weighing hopper from which they are discharged onto a conveyor.

Because fish is such a highly perishable and easily damaged product, the industry should utilize every means which will reduce handling, protect quality and speed the movement of the fish from the boat to the packing plant.

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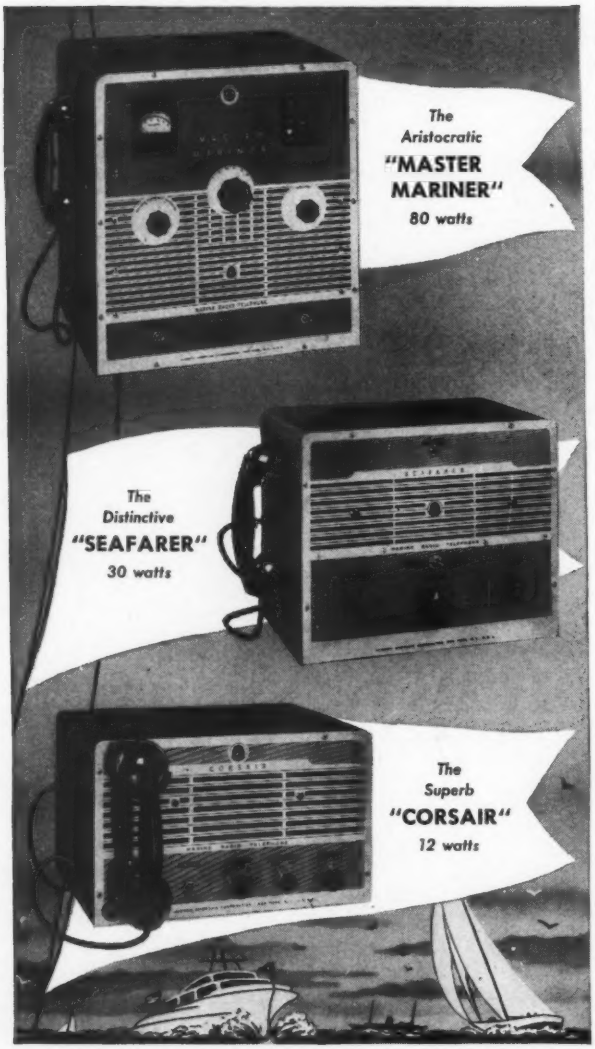
HUDSON AMERICAN'S
MARINE RADIO TELEPHONES



A superior product *must* give superior results, besides a deep pride in ownership; thousands of Hudson units in the field conclusively prove this. That's why Hudson American Marine Radio Telephones—with two decades of concentrated experience in radio communications—are the acknowledged standard of comparison in yachting circles everywhere. With *quality* emphasized in every detail from electrical circuits to outward appearance, each of the nine Hudson models is the finest of its type that can be produced. Our Sales and Service Organization is Nation-Wide to best serve you.

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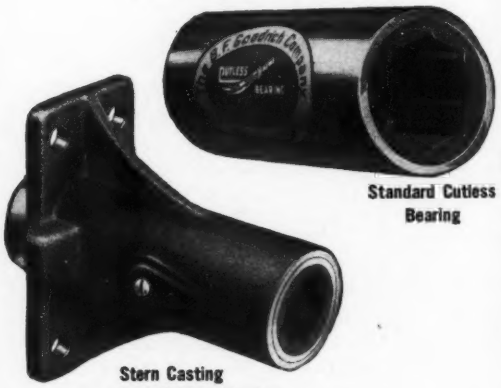

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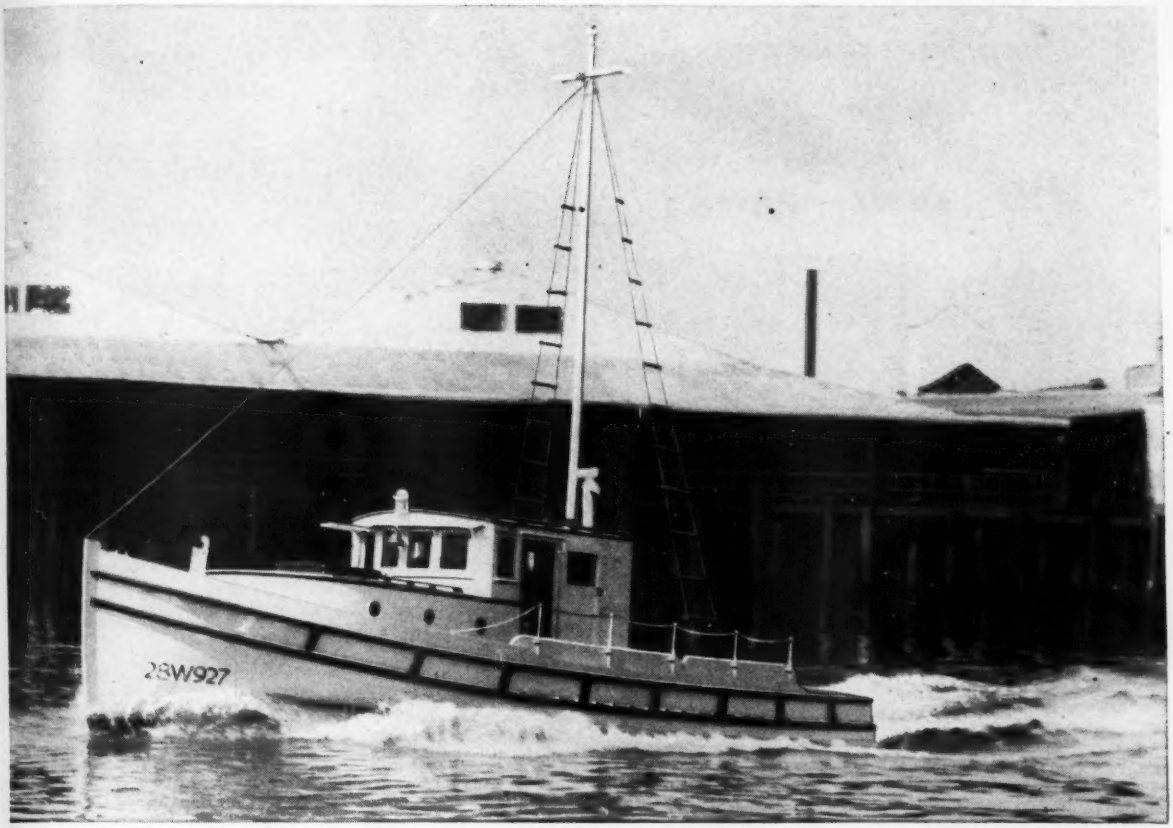


First—he got a line on Packard!

Ask Roy Johnson of California . . .

When he puts out his lines for albacore, he cashes in on the fact that *first* he got a line on *Packard!*

Soon after studying the Packard story, he installed a Packard 100-HP Marine Six—with built-in finger-tip gear control—in his 32-foot general fishing boat *Pursuit*. He selected a 2.52:1 reduction gear, to turn a 22 x 18 wheel.

Now he knows from pleasant *experience* that Packard marine power does an easier, faster, more profitable job.

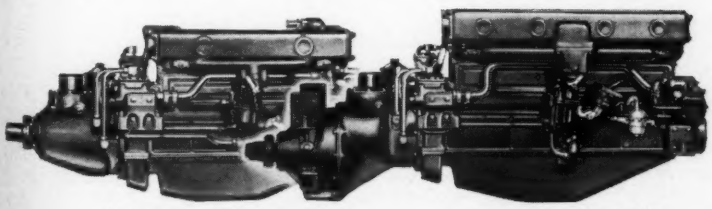
Just ask Roy Johnson—or any other fisherman who has decided to *be* "the man who owns one!"

ROY JOHNSON
owner of the "Pursuit" of Petaluma, California

Ask your Packard Marine Engine dealer about the biggest marine performance advancement in years!

See the 100-HP Packard Marine Six and the 150-HP Packard Marine Eight. Precision-built in the Home of PT Power, these smooth, husky, trouble-free engines are standard-equipped, *at no extra cost*, with built-in finger-tip gear control. Both are available with right or left-hand rotation, and a choice of reduction gear ratios.

See them! And get our propulsion recommendation for your own boat.



100-HP MARINE SIX
(245 cu. in.)

150-HP MARINE EIGHT
(356 cu. in.)

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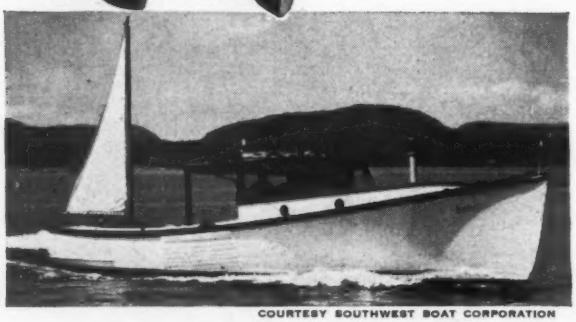
MARINE ENGINES

ASK THE MAN WHO OWNS ONE

Marine Engine Department, Packard Motor Car Company, Detroit 32, Michigan



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Now, with Fathometer Junior, you can easily locate those rock piles, ridges or runs where fish are most abundant. And once located, you can "stay on the fish" until you have a full haul.

Three hundred and sixty times each minute, Fathometer Junior will electronically sound for depth to give you a running picture of bottom changes . . . split-second warning of hidden reefs and shallows. And it will pick up those underwater landmarks to help you make port despite fog or darkness.

For decades, High Liners in every port have been depending on Fathometer echo depth sounders for their outstanding catches. So take a tip from these High Liners and use Fathometer Junior to make your inshore fishing operations more profitable. Remember that the initial cost of Fathometer Junior will be quickly repaid by time saved in finding the grounds . . . in the extra hours available for actual fishing. Mail the coupon, today, for full details.

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Please send me full details concerning Fathometer Jr. ☐ Your larger Fathometer ☐

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Sounding-Lead

HOOVER COMMISSION—The Fishery Products Division of the National Canners Association has initiated a proposal urging that an individual qualified in the fisheries be appointed to the Hoover Commission's Subcommittee on Natural Resources. Others who are cooperating in the effort to have a fisheries man named to the Subcommittee include the National Fisheries Institute, the Massachusetts Fisheries Association and the Oyster Institute.

The subcommittee, headed by ex-Governor Leslie A. Miller of Wyoming, is now engaged in studying the reorganization of the natural resources phases of the Executive Branch of the Federal Government. According to the National Canners Association, the study probably represents one of the greatest opportunities for obtaining adequate handling of Government fishery activities.

F&WS APPROPRIATIONS—An appropriation of $510,000 will be available to the Branch of Commercial Fisheries of the Fish & Wildlife Service during the fiscal year beginning July 1, which amount represents an increase of $285,000, including $250,000 for non-recurring Alaska fishery research items. The non-recurring items are $200,000 for an exploratory vessel and gear studies; $25,000 for an addition to the Ketchikan fishery products laboratory; and $25,000 for studies of toxins in clams. Of the $35,000 regular increase, $15,000 was allowed for South Atlantic and Gulf statistics, and for economics. Although this amount is insufficient for a complete canvass, it will permit an inventory of catch figures. No increase was granted for technological work.

The Branch of Fishery Biology was granted $1,147,500, as compared with the current appropriation of $790,040, an increase of $357,460. Of this increase, Alaska was again the recipient of the largest amount—$145,000—with $20,000 for repair of the Woods Hole F&WS Station, and an increase of $15,000 for the operation of the *Albatross III*. The proposed $50,000 for rehabilitation of oyster beds in Louisiana and Mississippi was cut to $20,000, and the suggested $100,000 for soft and hard clam studies was cut to $37,500.

FILLET IMPORTS—Imports of cod, haddock, hake, pollock, cusk and rosefish fillets during May amounted to 4,278,099 lbs.—an increase of 76% compared with the same month last year. Total imports of these fillets during the first five months of 1948 were 20,847,765 lbs., eleven million lbs. more than the receipts for the first five months of 1947, but less than one million lbs. above the imports for this period in 1946.

Receipts of groundfish, including rosefish fillets from Newfoundland during the first five months of 1948 were over 250% higher than for this period in 1947, and were nearly equal to the total imports from Newfoundland last year.

POLLUTION CONTROL ACT—Congress has enacted a water pollution control act which authorizes Federal loans totalling $112,500,000 to States, cities and towns for the construction of sewage treatment plants. Pollution of interstate waters is branded a public nuisance subject to Federal prosecution under terms of the bill, which gives the surgeon general authority to work out a nation-wide anti-pollution program with the States.

In addition to the loans for plant construction and equipment, the bill authorizes $5,000,000 to be allotted to States for pollution research and grants of another $5,000,000 for engineering and planning. The loans could be made only for facilities for the treatment of sewage and waste that otherwise would pollute interstate waters, which are defined as all rivers, lakes and other waters that flow across, or form a part of State boundaries. However, the provisions of the law apply whether the matter causing or contributing to such pollution is dis-

charged directly into interstate waters or reaches such waters after being discharged into a tributary.

At hearings before the 80th Congress in April and May of last year, it was pointed out that pollution has substantially cut down our shellfish producing areas thus reducing total food resources. A study of the waters of the Hampton Roads vicinity in 1934 shows that the total shellfish production for the State of Virginia dropped from 7,024,000 bushels in 1897 to 3,757,000 bushels in 1932. The effect on the small business man is demonstrated by a typical case where a producer's net income dropped from 10,000 bu. valued at $2,875 in 1901 to 251 bu. valued at $30.22 in 1936.

Milton C. James, assistant director of the Fish and Wildlife Service, estimates that in the Chesapeake Bay area there are some 40,000 acres of good shellfish bottom which are useless because of pollution. As a result, the shellfish interests in this area are damaged to the extent of probably a million or a million and a half dollars a year, according to James.

HERRING OIL EXTRACTION—The continuous solvent extraction process which has proven successful in the large scale extraction of cottonseed and soybean oil will now be used in the herring industry. This was revealed recently when representatives of Kveldulfur, Ltd., Reykjavik, Iceland, operators of a herring reduction plant, visited Allis-Chalmers in Milwaukee to confer on the use of the latter's solvent extraction equipment which they had purchased.

The new process consists of extracting essential oils from the fish with naptha or some other solvent. After the oil is carried away, the solvent is extracted from the food.

PRODUCTION OUTLOOK—Fish landings in Europe during 1947 practically reached the prewar level, and in some countries (e.g., Iceland, Belgium, and Denmark) production was considerably in excess of prewar according to the April, 1948 issue of FAO's *Economic Review of Food and Agriculture*. Export supplies from northwestern Europe in 1947 were estimated to be approximately equal to the average for the years immediately preceding the war. With continued reconstruction and expansion of the fishing fleets, it is expected that supplies in 1948 will be even greater than in 1947. There may be some difficulties in marketing fresh and frozen fish, however, because of inadequate refrigerated transport and storage facilities.

In North America, fish production was maintained in 1947, although the Canadian supply was about 10% below 1946. United States and Alaska catches equalled the 1935-38 average. Latin-American production has increased steadily during and since the war. In the Far East efforts are being made to raise the low level of production. Most of the Japanese production in 1947 was retained for domestic consumption, and it is expected that the same conditions will obtain in 1948.

ADDITIONS TO THE FLEET—One hundred thirty-four vessels received their first documents as fishing craft during May—12 more than in the previous month, but 18 less than were documented in May, 1947. A total of 427 vessels received their first documents as fishing craft during the first five months of 1948, compared with 510 in the first five months of 1947. Twenty-one of the vessels documented during May were registered at State of Washington ports, Louisiana following with 18, California and Alaska with 14 each, and North Carolina with 13.

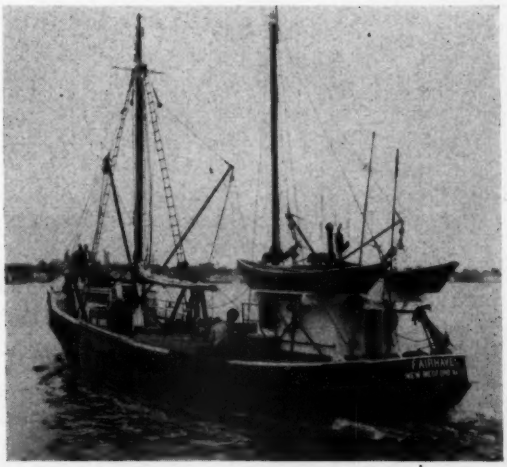
FOREIGN FISHERY AID—Expansion of the Greek fishing industry and establishment of the means for effective marketing and distribution of fishery products have been undertaken by the American Mission for Aid to Greece. Experiments in refrigeration on the larger fishing vessels, conducted in collaboration with the fishing industry and the Greek Government, have been highly successful. Development of this innovation in Greek fishing will enable ships to stay out until fully laden and permit the exploitation of waters heretofore unworked because of the distance from markets. As the development work in extending fishing proceeds, plans are being laid to establish refrigeration in marketing centers and for inland transportation, thereby

(Continued on page 53)

Surrette

EXTRA HEAVY DUTY

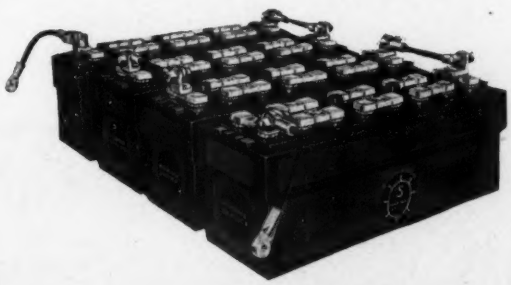
MARINE BATTERIES



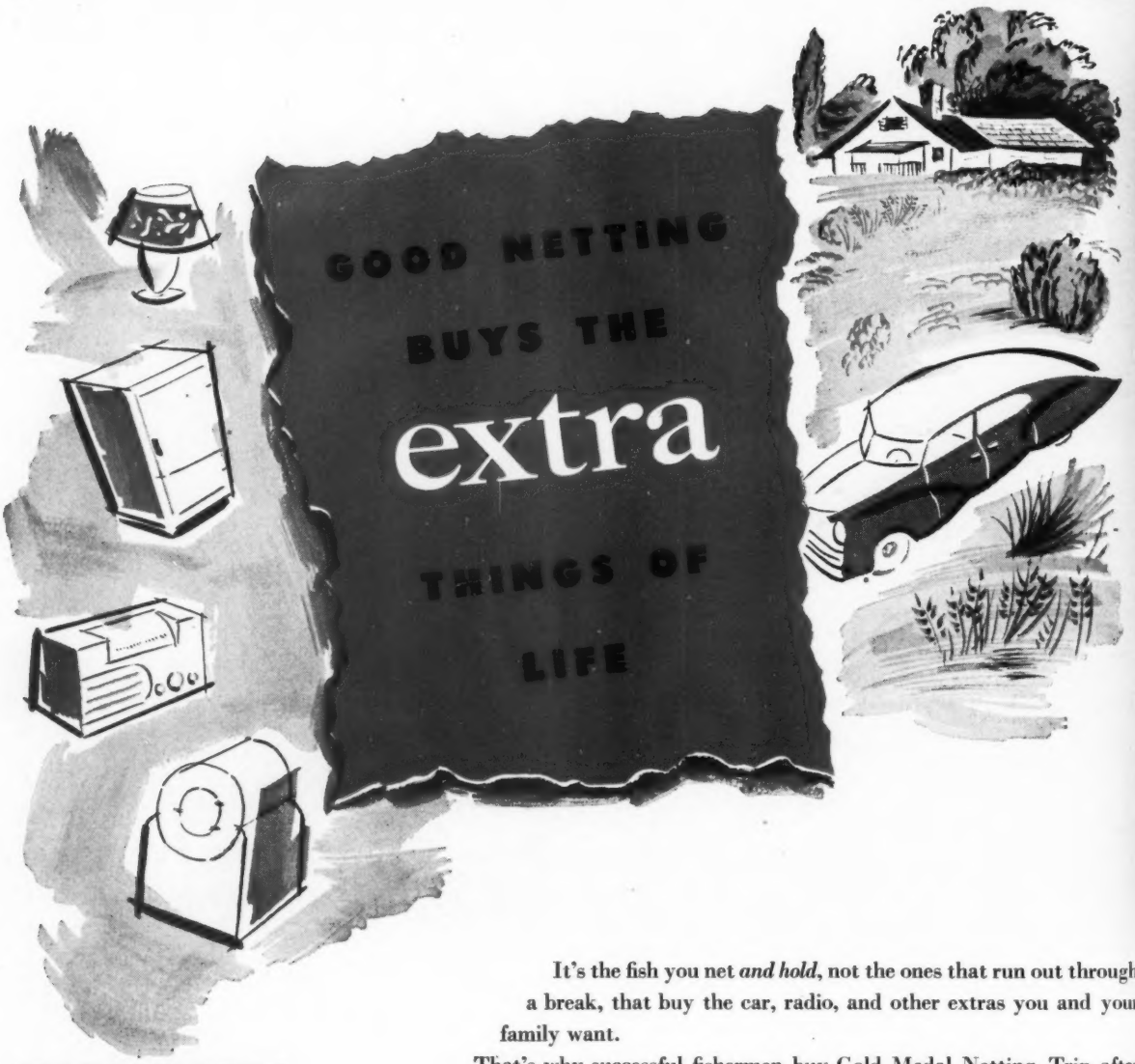
Give Dependable Service On Scalloper "Fairhaven"

The original battery equipment installed on the 85' New Bedford scallop dragger "Fairhaven" when she was built nearly four years ago, still is giving dependable service. She has a set of Surrette H-H-G-31, heavy duty 110 volt marine batteries of 283 ampere hour capacity. Francisco Baldo is her managing owner and Capt. Leuis Sears is skipper.

Surrette Marine Batteries are available in a complete range of sizes for both Diesel engine starting and lighting or power requirements. It will pay you to equip your boats with the battery that is built specially for long life in Marine Service and the highest capacity per pound of weight of any battery available.



SURRETTE STORAGE BATTERY CO.
SALEM, MASS.



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For hand-knitting, bending on, and hanging and mending, get the same high-quality twine that Gold Medal Netting is knit from. Ask for and be sure you get Gold Medal.

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means controlled production in our own plants, from the bale of cotton to the finished netting. This is your assurance of dependable quality.
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"Doubled our take with Sperry LORAN," says trawler skipper

"In eight months we doubled our take of King Crab with Sperry LORAN," says Captain Lowell Wakefield, president of Deep Sea Trawlers, Inc., and skipper of the steel trawler, DEEP SEA. Captain Wakefield gives LORAN full credit for the first successful American Bering Sea trawling expedition. He adds ". . . only by using Sperry Loran were we able to return to the banks after once locating them, since hazy weather and distance off shore eliminated visual fixes."

Makes record time through fog-bound Unimak Pass

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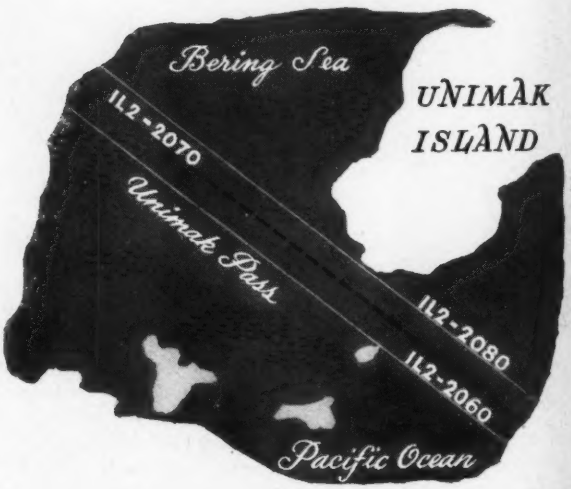

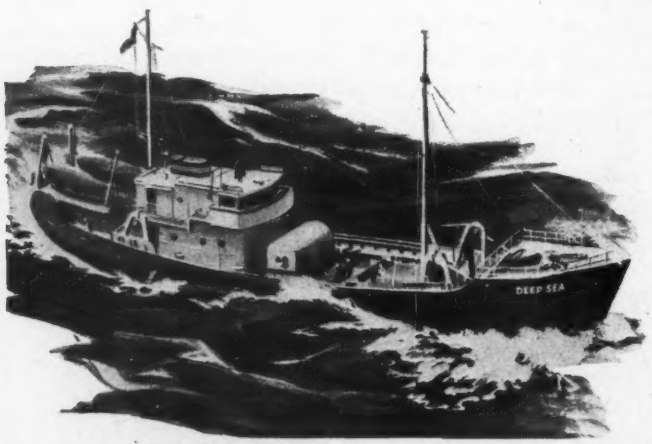

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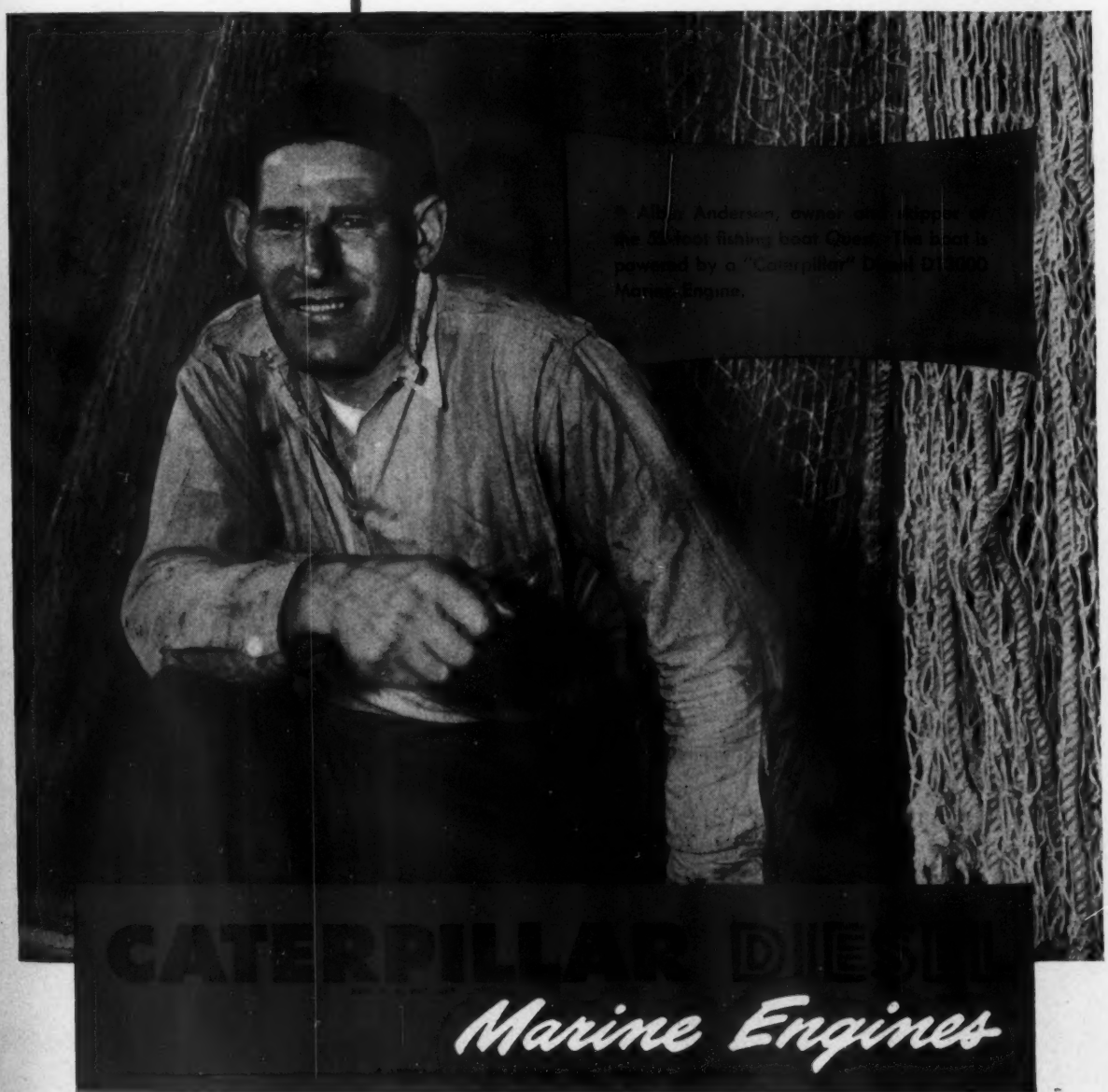

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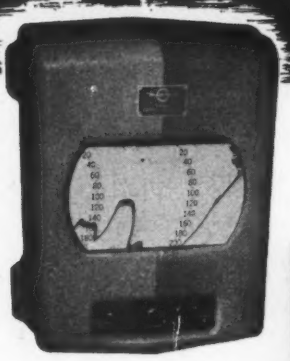

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New Bedford Scalloping Shows Rapid Growth

Accounts for One Half the Value of Port's Seafood Catch

ABOUT 20 years ago an enterprising Maine fisherman named Rodney Feyler, who had built up a demand for Maine-caught deep sea scallops in several parts of the West, sailed down to New Bedford and sent a small fleet of Maine vessels into waters off the Massachusetts Coast. His boats found what they were looking for. Mr. Feyler set up headquarters on City Pier 4, settled down in the midst of his virtual monopoly, and in two seasons was known up and down both sides of the Acushnet River as the "Scallop King".

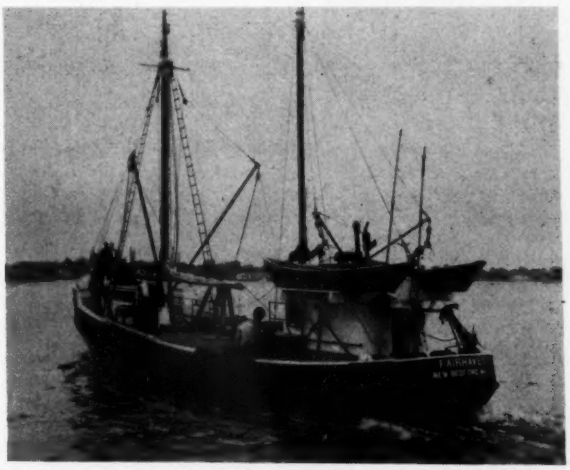
New Bedford fishermen, in short order, were all eyes. The second year of the Scallop King's reign a few local vessels joined the fleet when it left for the beds where the mollusks with the rich meat grew. They found the catches abundant, and the demand, when they returned to port, likewise. In the meantime, a handful of New Bedford fish dealers—L. S. Eldridge, a current leader in the scallop field, prominent among them—had figured out which way the wind was blowing. Mr. Feyler went back to Maine (where he later became Commissioner of Fisheries) and New Bedford turned serious attention to the fledgling industry which was to pour millions of dollars, within the next two decades, into its waterfront coffers.

Today the city supplies between 85 and 90% of the scallops consumed in the United States, and the catch accounts for one-half the value of all the fish landed in the port of New Bedford.

The rise of the industry has been steady but not, until two or three years ago, meteoric. In 1936, according to a New Bedford newspaper of that year, "at least a dozen New Bedford boats and nearly as many from New York" were scalloping out of the Massachusetts port. By the late 1930's more than 4,000,000 lbs. a year were being landed; in the early 1940's the annual take increased to an average of 5,000,000 lbs.; in 1942 it is reported that scallops earned $1,733,009 for the New Bedford fishing industry. In 1946 a 100% increase over 1945 in the number of boats engaged in scalloping caused profits to zoom, and in 1947 the city's 82 vessels participating in the trade carried 1,186,122 gallons (more than 10,000,000 lbs.) of scallops into the port and sold them for $5,251,135.

The mollusk behind this big and lucrative business is a bivalve six to eight inches in diameter—the sea, or giant variety (Pecten magellanicus Gmelin). It is taken in Summer from the northern edge of Georges Bank, an area 200 miles from New Bedford, and in Winter from a partially-sheltered place about 80 miles from home port called Bottom of Channel, east of Nantucket and off Asia Rip.

The sea scallop has two saucer-shaped, smooth-edged shells—only the smaller bay scallops, found in shallow waters, have the fluted edge usually associated with the species—and can swim about in a small area by opening and closing its shells. A peculiarity of these shells is that the scallop cannot close them tightly and retain water inside. As a result, the organism dies quickly after it is caught and spoils unless shucked immediately.



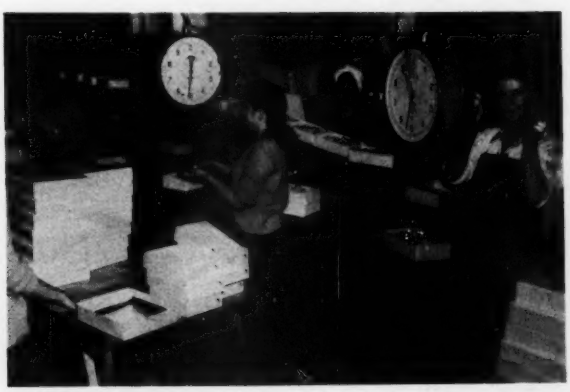
The 85′ New Bedford scalloper "Fairhaven" of which Francisco Baldo is managing owner and Capt. Leuis Sears, skipper. Built by Bristol Yacht Building Co., she is equipped with 240 hp. Superior Diesel, Hathaway winch, 110-volt Surrette batteries, 8 hp. Deseco Lister-Blackstone Diesel auxiliary unit with Imperial generator, Kinney clutches, Bludworth direction finder, Submarine Signal Fathometer, Kelvin-White compass, Edson steerer and Columbian propeller.

For this reason all hands aboard a scalloping vessel fall to as soon as a dredge is dumped on deck, remove the big, single muscle, or meat (the only part saved) from each scallop, and pack the lot in four-gallon cloth bags. The bags are then iced down in the hold until the boat returns to port.

The Atlantic Fishermen's Union, whose members man the New Bedford scalloping fleet, took into account several years ago the perishable nature of a sea scalloper's cargo and prescribed that fishing shall not continue more than eight days after the first scallops are caught. It also stipulated that the catch per trip should not exceed 150 gallons per man, a ruling amended two years ago to read 100 gallons per man and aimed at conservation as well as at keeping trips short and scallops fresh. Scallopers carry crews of 10 men each, making a vessel's present catch limit 1,000 gallons, and despite fishermen's complaints that the mollusks are growing harder and harder to find, boats seem to get all they're allowed without difficulty during the Summer months. Only in the Winter, when the fleet drops down to about 65 boats, do crews frequently come in short of the 1,000-mark.

(Continued on page 26)

Unloading scallops which had been iced down in the hold of the New Bedford scalloper "Malvina B", Capt. Sheldon S. Kent.



Scallops being packed in five-pound cartons, prior to freezing at the plant of L. S. Eldridge & Son, Inc., New Bedford, Mass.

Effects of Fresh-Water On Oyster Spawning

By Philip A. Butler*

EFFECTS of seasonal floods on oyster bars have been subject to investigation for many years at various locations along the eastern seaboard and in the Gulf of Mexico. The damages caused by these fresh waters usually have been observed several months after the actual environmental changes took place, when local watermen working the area discovered extensive mortalities. The floods of 1945-46 in the upper Chesapeake Bay caused the death of nearly 70% of the oysters in the area and apparently were quite similar to the floods which had caused high losses in the same area several times in the past century.

During the Spring of 1946 we were able to collect oyster samples regularly from the bars which were located nearest to the entrance of the flood waters from the Susquehanna watershed into Chesapeake Bay. Consequently, the opportunity presented itself to study microscopically the changes in these oyster meats and to see what effect there had been on the production of spawn.

When the collection of samples was initiated in May of 1946, it was possible to find from 50 to 100 oysters per bushel of dredged shells, but by the end of that same Summer it was necessary to examine from two to three bushels of shell in order to obtain 25 live oysters for examination.

These oysters were swollen and nearly transparent; many were unable to close their shells tightly. The muscle of the oyster was scarcely attached and the meats could be pushed out of the shells without using a knife. Determinations of the water content of the oyster meats showed that in many samples the total solids had been reduced by as much as 50%.

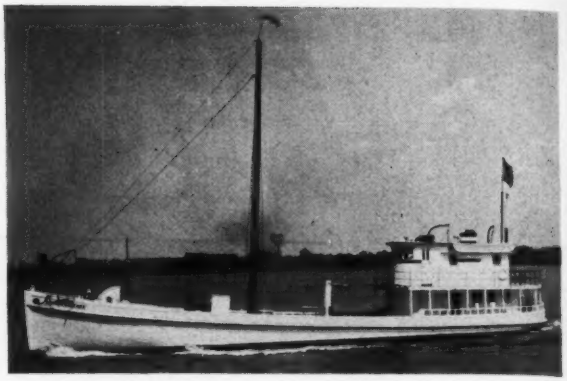
Of the many oysters examined, about 10% had the normal opaque, creamy-white appearance and would have passed as poor to fair market quality. But these, as well as the "glassy" oysters, always had empty stomachs and gave no evidence of feeding activity. A majority of those examined revealed heavy deposits of the green copper compound in the palps and gills and throughout most of the mantle.

In order to interpret the changes in these oysters, duplicate samples were collected at weekly intervals in another part of Chesapeake Bay where the oysters appeared to be quite "normal" and the salinity of the water was only moderately reduced by the floods. In this higher salinity area, the oysters were of good market quality. During the Summer there was a commercial set of young oysters in this area indicating that the population had spawned normally.

Normal Spawning Cycle

The changes which were found on microscopical examination of the oysters from the low salinity area can be best understood if we describe first what normally happens in the production of spawn. In the late Summer, when spawning is usually complete, the gonad goes through an indifferent stage and it is difficult to tell from these resting cells whether the oyster is male or female. This period is of very short duration and when the oysters are feeding heavily in the Fall, the spawn for the following Summer starts to grow and the sexes of the oysters are readily distinguishable. Few changes take place during the Winter hibernating period.

In the Spring, as water temperatures approach 40°F., the oyster commences feeding again and the spawn develops very quickly. Final differentiation of the spermatozoa takes place and the deposition of yolk in the eggs is completed. In the Chesapeake Bay area, larvae may be found in the water by the end of May, but the actual time of their appearance varies from year to year and with the latitude. The eggs continue to ripen and spawning goes on for most of the Summer until the end of August, when once again the oysters are spawned out and the gonads go into the resting stage. Although there is considerable variation among individual oysters as to the time when they achieve ripeness, in this area at least, it appears that there are two major spawnings during the Summer and also a small but continuous production of larvae during the entire period.



The 100′ oyster dredger "Chesapeake" owned by J. H. Miles & Co., Inc., Norfolk, Va. She is powered by a 220 hp. Fairbanks-Morse Diesel and has a capacity of 5,000 bushels. Operating four dredges, the boat catches 500 bushels per hour.

In contrast to this course of events in the high salinity area, nearly half of the oysters examined from the flooded area during the months of May, June and July had gonads which were in the resting or indifferent stage, that is, the stage of activity they should have shown 8 to 10 months earlier. Another 40% had developed just enough so that their sex could be determined and a scant 10% had spawn that approached the ripeness of oysters from the high salinity area.

After the first week in August, however, there was an abrupt increase in the development of spawn in the oysters from the low salinity area. The gonads rapidly increased in thickness, and free-swimming larvae were found in the plankton samples. Then, from the middle of August until late December, the same development of spawn took place which had occurred in the oysters of the high salinity area during the period May through July.

Correlated with the sudden development of spawn in August in the flooded area were two very obvious factors. The salinity, which until that time had been fluctuating between 0 and 3 parts per mille, jumped to 6 ppm and then more gradually increased to 13 parts per mille. The second factor was that the oysters started feeding actively. It should be mentioned here that the bottom water temperatures in the two areas studied did not vary more than 1°C. throughout the period and it is assumed that temperature was of no significance in the delay of gonad development in the low salinity area.

Other Factors Involved

Now in discussing the cause for the delayed production of spawn there is no doubt that the fresh water was the underlying factor but it appears that there is more to the problem than salinity alone. It will be recalled that from early Spring, about 10% of the oysters were in better condition than the remainder, i. e., not so transparent in appearance, and also that approximately this same percentage produced mature eggs at the normal time in the Spring. Since neither this group nor the remaining 90% were feeding during the first half of the Summer, it is suggested that the direct cause for the spawning delay was the absence of stored food.

The 10% group had maintained sufficient stored glycogen to permit the normal development of spawn and this activity was not prevented by the presence of the fresh water. Then when the salinity increased in August, the remaining oysters started feeding and immediately began to develop mature sex products. It is of interest that no abnormalities in gonad development were found either in the small group which ripened early or in the majority which matured late in the Summer. This again

(Continued on page 49)

* Aquatic Biologist of U. S. Fish & Wildlife Service, Annapolis, Md., who delivered the accompanying address at the recent Oyster Convention.

Progress Made Against Sea Lamprey Menace

By Ted Bentz

SINCE 1937, the multi-million dollar fish industry of the Great Lakes has been imperiled by an eel-like predator known as the sea lamprey. Originally a salt water creature, the sea lamprey migrated into the Great Lakes from the Atlantic. Its characteristic habit of spawning in fresh water streams is believed to be the cause of its migration up the St. Lawrence River and, via Welland Canal, into all of the five big Lakes.

Its invasion has been gradual, requiring more than a generation to reach the waters of Lake Superior, and the latest move into Lake Charlevoix and Burt, Mullet and Pentwater Lakes—all inland waters connected with the Great Lakes—renders the situation more alarming. Commercial fishermen and other members of the industry are becoming more and more concerned because of the eel's widespread presence and increasing damage to fish resources in this region.

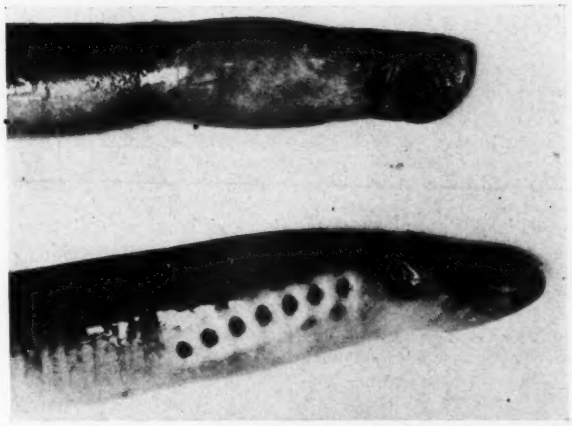
Although the Michigan Conservation Department has made considerable progress in discovering in detail the life cycle of the predator and how to detect its weakest link, it has not found a successful method to break the cycle at its most vulnerable point. However, Department employees now are concentrating on this phase of the campaign which was launched last year and since has acquired increased impetus.

The idea is to find an economically practical means of control. There is a danger that the best method to be discovered will cost too much. Thus far, the most successful has been the wire weir, installed at or near the mouth of spawning streams. This method alone, however, is not enough. The electric shocker, whereby lamprey larvae and lampreys in the tadpole stage may be killed in their developing grounds by electric current, is still in the stage of experimentation. A new weir, of a Swedish pattern, is being tried near Mackinaw City, Mich. Whether this lamprey trap is an improvement over the old style weir is not known.

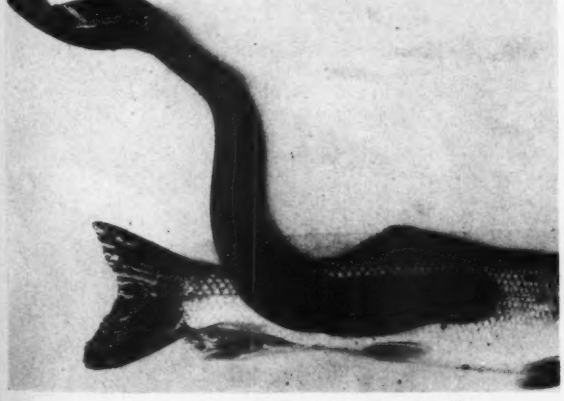
The sharp decline in the commercial catch of lake trout in upper Lake Huron, and the increasing complaints of commercial fishermen are the principal factors which brought the sea lamprey menace to public attention.

In 1946 an informal committee was organized, made up primarily of fisheries administrators and technical advisors from each of the Great Lakes States, the U. S. Fish and Wildlife Service represented by Dr. John Van Oosten, and the Province of Ontario. The chief purpose of the committee is to function as a planning agency to prevent repetition or duplication of effort, and to provide a medium for mutual cooperation and exchange of information.

The Michigan Conservation Department, determined that no stone be left unturned in the battle against the sea lamprey menace, has made the greatest progress among the participating departments in the planned-study campaign. However, conservation departments of States bordering the Great Lakes, which have pledged their support, and the U. S. Fish and Wildlife Service have been extending active cooperation.



The head of a sea lamprey, top, seen from the under side, showing the suction-cup mouth lined with teeth. Lower view is of the side of the head, showing the seven puncture-like gill openings.



A sea lamprey attached to the side of a fish.

Definitely established is the fact that the parasite has a life span of seven years. Moving upstream during Spring and Summer into flowing water, the sexually mature lampreys seek out gravelly, rubbly riffles where they make circular depressions by pulling stones and pebbles outward from the selected area. The male and female work together in constructing the nest. Once it is prepared, the lampreys lay the eggs and sperm into the water where the eggs are fertilized. After the spawning operation, they die.

The eggs develop within three weeks into larvae which remain in the nest for about 30 days. By then they have reached a length of about one-half inch. At this stage they move downstream and seek protection in the nearest mud bank. There they make a burrow where they pass the larval life by getting food from organic debris. During the four years they live in this fashion, they go through a metamorphosis just as does the tadpole when it develops into a frog.

With the expiration of the fourth year, and as the creatures reach a length of six to eight inches, a revolutionary transformation occurs which changes the baby lampreys into the parasitic form. The eyes become highly developed and the mouth forms from a horseshoe to a vacuum-cup shape and grows sharp, horny teeth. A rasp-like tongue and the buccal glands develop ready for use. Thus equipped, the predator migrates downstream into the lake to start its depredations, feeding upon the blood and body juices of trout, whitefish, chubs, suckers and other edible lake fish.

The sea lamprey, however, does very little attacking of lake fish throughout its first 16 to 40 months in lake waters. While in this stage, the parasite is undergoing a change from adolescence to maturity. It is in the adult stage, which lasts about three years, that the creature does greatest damage to lake fish. Just before its life cycle has expired, it leaves the lake and enters a stream to spawn and die. During the spawning period, the eel does not appear to molest fish populations in streams.

Responsible for the alarming increase in the number of parasites is the fact that the sea lamprey is fully capable of laying between 100,000 and 300,000 eggs. The average sea lamprey, however, may have a progeny of only several thousand out of a spawn of 68,675 eggs.

To date 83 streams in Michigan are known sea lamprey spawning grounds. In 1947 the parasite was present in every major stream entering Lake Michigan, in four of the five major

(Continued on page 45)

Advancements in Making Fish By-Products

By R. W. Harrison*

PRESENT day processes used in the manufacture of fish meal and fish oil have developed gradually from a very primitive beginning. Generally speaking, the basic principles of these processes were developed many years before there was any thought of fish meal and fish oils being used under conditions where nutritive value was a matter for consideraton. The principal objective was, and still is, to separate the oil from the remainder of the raw material and/or to preserve the residue; obtaining maximum recoveries at a minimum of operating cost. Changes in manufacturing procedures specifically for conservation of nutritive properties have been rather limited and of relatively recent application. Generally speaking, it has been difficult in the fishery by-product industry to obtain premium for quality, thus, unless increased yield or low-cost results, there has been limited economic incentive.

The principal fishery by-products are fish meal, fish oil, and fish liver oils. Another by-product rapidly gaining importance is called fish solubles. All four have definite utility in animal nutrition.

Fish meals have value because of their protein, vitamin, and mineral content. The oil present may be of questionable utility. The value of fish oils, fish liver oils and fish solubles is due primarily to their vitamin content, although the oils have certain utility as fat and the proteins of fish solubles have certain supplemental value. Fish oils and fish liver oils are sources of fat soluble Vitamins A and D, and fish solubles are relatively rich sources of several water soluble vitamins. Fish meals normally are relatively devoid of Vitamin A by the time they enter consumption, but may contain some Vitamin D and varying amounts of several of the water-soluble vitamins. The effect of manufacture on the feeding value of these fishery by-products, therefore, depends on what happens to the proteins, the vitamins, the minerals, and the fat during the manufacturing process.

If, in the processing of fish meal, something occurs that decreases its digestibility, all nutritional factors are apt to become available in lesser amount per unit of weight consumed. Thus poorer feeding value can be expected. Similarly, if in the process of manufacture some procedure alters or destroys some of the amino acid components of the protein, particularly any of the so-called essential amino acids, the protein may be less efficiently used in metabolism—thus having poorer biological value.

If in the manufacturing process water soluble proteins and water soluble vitamins leak out and are discarded, the nutritive properties of the resultant end product may be affected, and the discarded nutrients are, of course, lost.

If in handling and processing spoilage is permitted to occur, valuable nutrients may be destroyed and toxic compounds can be formed. Spoilage, in any event, leads to off-odors and flavors, which in themselves may not affect nutritive value, but which decrease the utility of the product as a feedstuff.

Destruction or loss of fat soluble vitamins during manufacture of fish oils and fish liver oils, while being a direct loss to the processor, does not necessarily mean that the feed mixer obtains less value for what he purchases because these products are normally sold on actual vitamin content at the time of delivery. However, conditions which lead to vitamin loss or destruction may often result in the product having poorer vitamin stability and thus being of less utility as a feed ingredient. It is also possible that conditions of manufacture can decrease stability without causing actual loss of vitamins and true value as a feed ingredient is decreased.

* Address delivered at a recent National Fisheries Convention by Mr. Harrison who is associated with Lyle Branchflower Co., Seattle.

Sacking fish meal in a menhaden plant at Beaufort, N. C.

Manufacturing Processes

The process most widely used in fish reduction is known as a wet rendering process. The fish material is cooked continuously in direct contact with live steam, squeezed in a continuous screw press, the oil is separated from the expressed liquids and the residue or press cake is dried. The press liquors contain, in addition to the oil, dissolved proteins, some fine protein, and have solids and water soluble vitamins. Formerly, the liquid remaining after oil separation was discarded. Now it is the source material for the manufacture of fish solubles.

The most pronounced changes in manufacturing processes have been related to separation of oil from press liquors, the recovery of stick water as condensed fish solubles and in methods of drying press cake. Except for the latter, these changes have been made to obtain greater recoveries. Oil formerly was separated by gravity settling. Now it is general practice to use centrifugal separators and oil purifiers. Stick water formerly was discarded. Now in many installations it is concentrated by evaporation and either added to the press cake prior to drying or is prepared as the preserved, semi-liquid material previously referred to as fish solubles.

Until about fifteen years ago, practically all dryers used in conjunction with continuous cooking and pressing were of the hot-air or flame type. The few exceptions were in New England where a few steam-jacketed batch type driers were used for "ground" fish meal and some Maine herring waste. Since that time continuous dryers have replaced many of the old flame type dryers. A few installations have been made, in which the vapors created in drying are superheated and reused in direct contact with the meal as the heating medium.

Practically all menhaden, pilchard, herring, salmon, tuna, mackerel and other materials of high oil content used for reduction purposes are processed by the wet method. Its popularity is due to the fact that it can be made to yield a high quality of oil and meal and it has high capacity and relatively low operating and initial cost in terms of capacity.

Another type of process applicable under certain conditions is known as dry rendering. This consists of dehydrating raw fish material in steam-jacketed batch type dryers, generally under vacuum and subsequent removal of fat, if any, by pressing or solvent extraction. This type of process has low capacity per unit of investment and can be used economically only when the supply of raw material is rather uniformly available during a considerbale period of the year. This type or process, involving just the drying operation, can be used to considerable advantage where small daily quantities of raw material are available, or under conditions where the material is not of sufficient oil content to warrant recovery.

Influence on Nutritive Value

Manufacturing processes and their effect on feeding value were not studied extensively in this country until the late 1920's and the bulk of the information on this subject was published during the next ten years. Prior to this time, dif-

(Continued on page 35)

83-Ft. "Mary Anne" is First Refrigerated Sardine Carrier

THE first refrigerated sardine carrier on the Atlantic Coast was placed in operation last month at Rockland, Maine. She is the 83′ 7″ *Mary Anne*, owned by Holmes Packing Corp. and skippered by Capt. George H. Hicks, who supervised the installation of her equipment. The vessel was launched by Newbert and Wallace boatyard on June 17.

Designed by Roy Wallace of the yard, the *Mary Anne's* hull is similar to that of the *Lou-Ann* built for Bath Canning Co. last year, but with 4 additional frames. She has a beam of 17′6″ and a 7′ draft. Planking is 2″ hard pine over double 4″ x 6½″ sawn oak frames on 16″ centers, and decking is 2″ white pine.

The new vessel is powered with a General Motors Twin Diesel unit with single screw, which gives her a speed of 10 knots light at 1600 rpm. and better than 9 knots loaded. The propulsion plant comprises two 165 hp. engines with 4:1 reduction, swinging a 52 x 40, 3 blade Columbian propeller, and was sold by Walter H. Moreton Corp. The engines are fitted with Adel hydraulic controls and Maxim silencers.

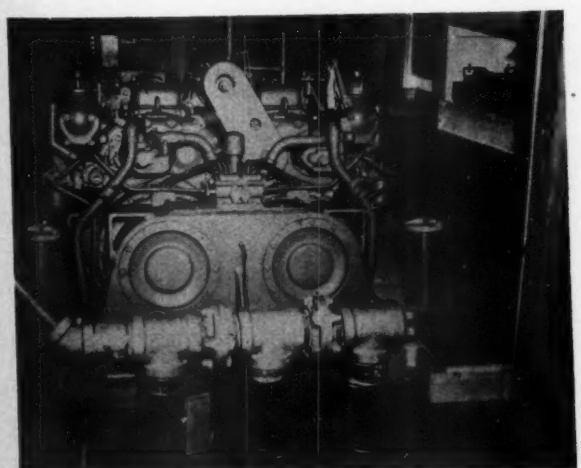
A 40 kw., 165 hp. General Motors Diesel auxiliary generating unit for operating the refrigeration equipment, is placed athwartships aft of the main engine room.

The *Mary Anne's* refrigeration system, which may revolutionize the transporting of sardine herring to canning plants, already has demonstrated its practicability with complete satisfaction. Essentially, the equipment provides for continuous circulation of brine through the hold, which cools and salts the fish simultaneously.

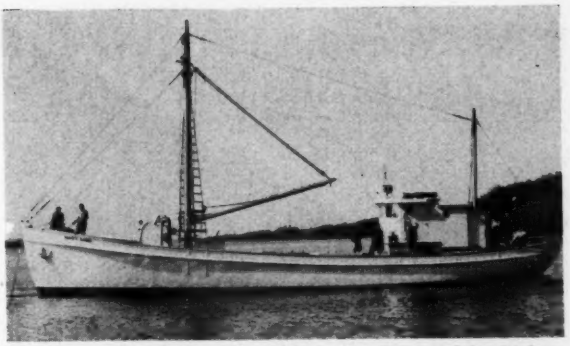
The conventional method is to carry the fish in an unrefrigerated, watertight hold with a certain amount of sea water and a manual sprinkling of bag salt. This means that close coordination between loading and canning time, quick handling and short runs are imperative, particularly in warm weather.

With refrigeration, the *Mary Anne* can cover a wider range of operation, can get fish from the seiners and weirs at any hour of the day and can store fish in her hold at the dock until the canning plant is ready to handle them.

The refrigeration equipment on the *Mary Anne* consists of two 15 hp. Baker Ice Machine Co. compressors in the starboard side of the engine room, a Baker-design marine type ammonia condenser on the port side and a receiver. A 2000 gallon brine tank extending the full width of the hull between the two fish holds is cooled with 700 feet of boiler type full flooded ammonia coils.



The General Motors twin Diesel power plant in the sardine carrier "Mary Anne" and some of the piping for her refrigeration equipment.



The new 83′ sardine carrier "Mary Anne" owned by Holmes Packing Corp., Rockland, Me., and built by Newbert & Wallace, Thomaston, Me.

Left to right, Alger Pike, Kermit St. Peter, M. B. Pike, of Holmes Packing Corp., and Capt. George H. Hicks, skipper of the "Mary Anne."

Pipes from the brine tank supply outlets at the top of the holds by gravity feed. The brine runs down through the fish and discharges into a 2′ wide trough in the bottom of the holds which is covered with perforated steel plate. A 500 gpm. Goulds pump then returns the brine to the tank and thus completes the brine flowage cycle. The ammonia goes from the compressor to the condenser, then to the receiver and finally to brine tank coils where it cools the brine. The refrigerating machinery was installed by Jarvis Engineering Co. of Boston.

The brine used on the boat is of 100% salt solution and is made in an International Salt Co. brine machine at the Holmes plant. Two thousand gallons of brine, the amount required for the boat's system, can be made in 6 hours, and the brine is replaced after each trip. An important advantage gained by using brine for salting the fish is the fact that there is uniform distribution throughout the hold.

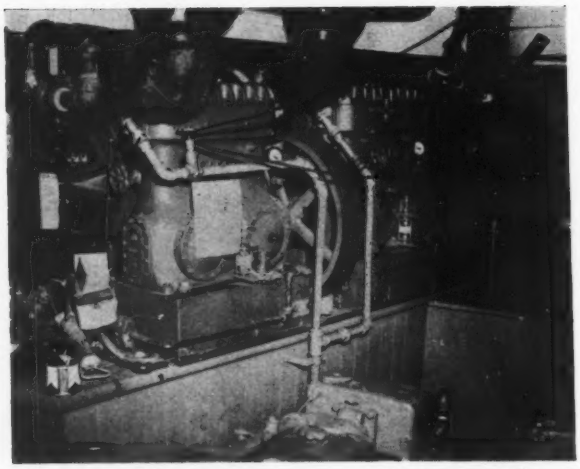
Tests of the brine system on the *Mary Anne* have shown that it is possible to bring down the temperature of sea water in the hold from 62 to 34 degrees in 20 minutes' time. Usually the amount of water that comes in with the fish represents 10 to 15% of the total volume. At present, a brine temperature of 40 degrees is being maintained.

Capacity Markings in Holds

Another new feature of the *Mary Anne* is the use of capacity markings in the holds, which are certified by the State. This is expected to eliminate most of the guesswork in estimating the amount of fish which the boat buys from fishermen. Numeral markings on the side of the holds indicate the dry bushel capacity at one food graduations. For the after hold the figures are 66, 165, 296, 414, 589 and 738, and for the forward hold, 83, 206, 352, 514, 679 and 845, making a total capacity of 1583 bushels. The use of a fore and aft bulkhead or swash plate in the holds, made with removable boards, is said to be an innovation.

In order to offset the additional weight of the refrigerating equipment in the stern of the boat, the two fuel tanks, with 1000

(Continued on page 20)



The Baker refrigeration compressors in the starboard side of the "Mary Anne" engine room.

gal. total capacity, are placed either side of the mast between the forward hold and fo'c's'le.

The *Mary Anne* has commodious quarters, with a berth in deckhouse state-room and 4 bunks in the fo'c's'le. The galley has a No. 10160 Shipmate oil-fired range and a folding table that forms the shack locker door.

The boat is fitted with hawse pipe and anchor chain locker, and carries a 250 lb. Danforth anchor which is handled by a 3 hp. electric Ideal anchor windlass. A 7½ hp. electric hoist is used for loading fish, while unloading at the plant is done with a suction pipe operated by a Yeomans pump.

Navigating instruments on the carrier include Hudson American 80-watt radiotelephone, Bendix depth recorder and Kaar direction finder, furnished by Sargent, Lord & Co. Electrical work was performed by Leadbetter Machine Co. The vessel is rigged with Columbian rope and uses Texaco fuel and lubricants. She was painted with Pettit paints, and her deck was covered with a special mixture of liquid pine and tar, poured on hot, which is said to obviate the problem of chipping.

The Holmes Packing Corp. has sardine packing plants at Eastport and Rockland, and owns three other boats, the *Oquirrh*, *Hazel Leah* and *Eva H.* M. B. Pike is general manager and treasurer of the Company, Alger Pike is president and Kermit St. Peter is manager of the Rockland plant.

After hold of the "Mary Anne" showing capacity markings and a circulating brine outlet on the inside of the hatch.

The Company has installed machinery at Rock land for packing large herring in oval cans with a variety of sauces this Summer. A 180′ x 45′ building used by a previous owner of the plant for packing mackerel, is being converted for the new operation.

Yard Building Two More Carriers

Newbert and Wallace are building an 83′ sardine carrier for North Lubec Mfg. & Canning Co., North Lubec, to be powered with a 171 hp. Buda Diesel; and a 73′ carrier for Belfast Packing Co., Belfast, to be equipped with a 135 hp. Caterpillar Diesel.

Maine Expects to Double Its Young Lobster Output

The Department of Sea and Shore Fisheries' annual lobster rearing program got underway at the Boothbay Harbor rearing station June 12, with 100% increased production expected as a result of modernization of facilities. The improvements were made possible through the aid of the Fish and Wildlife Service, which is cooperating in the lobster rearing program, and include the installation of an oil heating system for the rearing tanks which has revolutionized completely the method of producing young fourth-stage lobsters.

It is believed that the new system will permit the station to produce more and better lobsters at greatly decreased costs, and that it has solved the problem of gas bubbles which formerly caused great losses among young lobsters during the process of growth.

Lobster eggs are hatched in the Federal station and sent to the Boothbay Harbor plant for rearing. After they reach the fourth or sinking stage, the young are released in suitable locations along the coast.

Lobstermen in Pine Point are continuing conservation efforts, inaugurated last year through a local cooperative, in order to insure a continued supply of breeding lobsters. Each Coop member annually releases 10 female lobsters, marked with the State V, in addition to all seed lobsters normally released. The Coop has pointed out that if every lobsterman in Maine would adopt the practice, 65,000 additional female lobsters would be released annually and prevent the supply from becoming depleted as has the clam supply.

The Pine Point Cooperative also released fourth stage lobsters raised in a natural pond on a small experimental scale. In this project, the Coop placed seed lobsters in a 36″ x 27″ x 14″ cage with a partition in the middle and covered with a protective screening. When the baby lobsters were large enough to sink, they were released.

Effects of Condition of Flats on Clam Growth

The first effort to study the effects of hydrographic and geological conditions on the growth of clams will be commenced shortly in selected areas along the Maine Coast as a joint project of the Sea and Shore Fisheries Department and the Maine Development Commission. Soil analyses and a thorough topographic survey will be made of certain flats where some information is available on conditions over a period of years. By comparing changes in the flats with variations in the depletion and mortality of shellfish, it is hoped to learn something further about the factors necessary to maintain and improve Maine's clam supply.

Federal and Canadian clam technicians and biologists, as well as research personnel from other clam producing States, are reported to be keenly interested in Maine's approach to the clam depletion problem, and it is expected that supplementary research soon will begin elsewhere.

Tuna Fish Running

Tuna schools arrived off Casco Bay the week of June 21, and the first fish, a 500-pounder, was harpooned by Merle Gilman of West Point. Gilman made the catch between Lumbo Ledge and Portland Lightship.

The first tuna to be landed at Ogunquit this season, a 500-pounder, was brought in June 18 by Leon Perkins and William Tower, Jr. in their tuna boat *Isabelle J.*

Chebeague Seiners Make Good Herring Catches

The Chebeague Island sardine herring seiners met with marked success the first week of June. Catches of from 2,000 to 5,000 bushels were made during that period by Capt. Manley A. Dyer and crew and Capt. Henry A. Dyer and his crew. For several years past it has been early Fall or late Summer before the sardine herring appeared in worthwhile schools in the lower bay coves.

Rockland to Hold Lobster and Seafood Festival

In an effort to publicize and promote Maine lobsters and seafood products, the Rockland Junior Chamber of Commerce

is sponsoring a Lobster and Seafood Festival, to be held July 31. The highlight of the festival, which will take place at the public landing area on the city water front, will be a gigantic outdoor lobster and seafood picnic. All types of fishing craft and lobster boats will be on display for the inspection of the festival visitors, and Rockland's fish processing and packing plants will be open to the public.

Other features of the festival include parades, street dancing, boat races, youth activities and a Festival Queen contest, and both processed and fresh seafood displays.

West Coast Crabs Flown to Boothbay Harbor

A shipment of West Coast Dungeness crabs was flown to Boothbay Harbor the middle of June from Seattle, Wash. The crabs, as large as a dinner plate, were shipped to the Maine port as a test of the effect of air transportation. They were in a special aluminum container packed with seaweed, and were said to be in excellent condition upon arrival.

A reciprocal shipment of Maine lobsters will be sent to Seattle in several weeks, according to Richard E. Reed, Sea and Shore Fisheries Commissioner.

Portland to Offer Waterfront Course

Portland High School next Fall will offer an Oceans, Harbor and Waterfront course, to aid pupils in finding employment in the local port or in trades connected with the ocean. Topics of the new course will include a study of nearby fisheries, small and large boat construction, processing of fish, engines and fuels, fishing equipment, ship chandlery, meteorology, markets and future trends, small and large boat handling and maintenance, transportation of merchandise, exports and imports, U. S. Lighthouse and Coast Guard Service and other harbor activities.

Yarmouth Sardine Plant Levelled by Fire

Fire destroyed the sardine canning plant of the Royal River Packing Co., Yarmouth on June 29, with the loss estimated at $100,000. Employing 200 persons, the plant was wiped out at the height of the packing season. Ralph B. Stevens, president, treasurer and principal owner of the firm, said three and one half freight carloads of packed sardines and one carload of empty cans were in the building.

Seafarer's Machine Repair Shop Opens

The Seafarer's Machine Repair Shop was opened at Boothbay Harbor the latter part of June by Fred Woodworth and Harry Hurinowich, both former employees of Marine Service, Inc. The new firm will offer complete maintenance of gasoline and Diesel engines and general machine work. The late James Munro and his son James, Jr. formerly operated a marine service shop at the location.

Two Bailey Island Lobstermen Drown

One of Bailey Island's most widely known father and son lobster trapping partnerships was ended in tragedy on June 10, when Ernest Gardiner, Sr. and Ernest, Jr. were drowned after their lobster boat apparently had capsized within 100′ of shore. The drowning was the first to involve a Bailey Island lobsterman since 1919.

Northeast Aviation Adds Engine Lines

Northeast Aviation Co., Portland, has been made State of Maine distributor for Osco marine engines and Fitler rope. The Company also has been appointed distributor of Lathrop marine engines from Wiscasset, Me., to Portsmouth, N. H.

The Northeast firm will continue to distribute Flagship marine engines, and will maintain complete facilities for marine engine overhauling and repairs. Another product being distributed by Northeast is the Multi-Tool, a portable power source with 1½ hp. Continental gasoline engine.

Southwest Boat Handling Cummins Engines

Southwest Boat Corp., Southwest Harbor, Me., has been appointed sub-dealer for Cummins marine Diesel engines in Northeastern Maine. The Company will carry a representative stock of parts and will furnish service for that area. It is equipped to handle engine installation and reconditioning work, and will have Cummins Diesels on display.

A. C. McLoon Company's 64′ lobster smack "A. C. McLoon" of Rockland, Me., which is skippered by Capt. Sidney Sprague. The vessel carries 30,000 lbs. of crated lobsters in two holds. She is equipped with a 175 hp. Fairbanks-Morse Diesel with 2:1 reduction gear, New England hoist, Kaar direction finder, Western Electric telephone, 150 lb. Danforth anchor and Shipmate range, and is painted with Pettit paints.

Camden Yard Reorganized

Camden Shipbuilding Co., Inc., has taken over the construction facilities of Camden Shipbuilding & Marine Railway Co., Camden, Me. William E. Peterson, Jr., formerly general superintendent of the latter concern, is president of the new organization, while Malcolm Brewer is vice-president and master builder.

The new firm has taken over the commercial boat and yacht building work formerly carried on by the old Company, with the same personnel. It also will be equipped to handle hauling and repairing work. The Camden Shipbuilding & Marine Railway Co., headed by Richard Lyman, will continue to operate its storage and repair business.

Central Wharf Handling Jefferson-Travis

Central Wharf Oil & Supply Co., Central Wharf, Portland, Maine, managed by Charles Olsen has been appointed distributor of Jefferson-Travis radiotelephone equipment. The Company also is a dealer for Nordberg marine engines.

Seiner "Nyanza" Launched by Bristol

The 60′ mackerel seiner *Nyanza*, built by Bristol Yacht Building Co., So. Bristol, was launched last month for Capt. Manville Davis of Monhegan. The boat is powered with a 175 hp. supercharged Cummins Diesel.

Draggers Under Construction

Bristol Yacht Building Company is finishing work on a 97′ dragger which will be powered by a DMG-6, 12 x 15, 400 hp., 400 rpm. Enterprise Diesel.

Bristol Yacht Building is constructing a 60′ dragger for Capt. Vito Lochirco of Gloucester to replace his ill-fated *Mary & Joseph*. The new vessel will be powered with a 171 hp. Buda Diesel with 2:1 reduction.

"Eagle" Being Repowered

The 103′ Rockland dragger *Eagle*, owned by Harvey Gamage and commanded by Capt. Norman Stinson, is being repowered at General Seafoods Shipyard, Rockland, with a DMG-6, 12 x 15 Enterprise Diesel, rated 400 hp. at 400 rpm. and swinging a 62 x 40 Hyde propeller. The vessel landed over one half million pounds of fish during the month of June.

Boston Fish Production Shows Two-Million-Pound Gain

Fresh fish landings at Boston Fish Pier for the first six months of 1948 were more than two million lbs. ahead of 1947, according to figures released by the Massachusetts Fisheries Association. Production for the first half of 1948 was 104,625,990 lbs., as compared with 102,249,545 lbs. during the same period of 1947. More than half the 1948 catch was haddock, with cod, mackerel, whiting, redfish and pollock landings being the next highest.

Boston's inshore fleet arrived in port June 17 with a large amount of whiting caught in Massachusetts Bay. The 23 vessels landed 330,000 lbs. of the fish, as well as 31,700 lbs. of mixed species.

Shellfish Study Commission Appointed

Appointments to the special recess commission authorized by the last Legislature to make a study of shellfish and shellfish purification plants were announced recently. Members include Representatives John A. Armstrong of Plymouth, Francis W. Lindstrom of Cambridge and James A. O'Brien of Fall River; Senator Richard I. Furbush of Waltham; and Director Francis W. Sargent of the Marine Fisheries Division of the Massachusetts Conservation Department.

New Fog Signal at Nantasket Roads

The Coast Guard has established a new fog signal at Fort Warren, Nantasket Roads, which has been the scene of several groundings. The new signal, electrically operated, will sound a blast every 30 seconds, another blast four seconds later, and then be silent for 26 seconds.

Survey Reveals Fish Being Served Oftener

New England homemakers are meeting the rising costs of living by serving fish more frequently, the Massachusetts Fisheries Association has announced following the analysis of 4,376 questionnaires filled in by women who attended the recent New England Foods Exposition. Although in prewar years fish was regarded as a "once a week' food, the questionnaires revealed a decided trend toward the everyday acceptance of fish by the housewife. Forty-two per cent of the women interviewed said they now serve fish twice a week, and 51% stated that they serve fish once a week.

The women apparently were very conscious of the nutritional values of fish, as 47% said that nutrition was the most important advantage of serving fish, followed by economy, 34%; and tastiness, 19%. They indicated that they would serve more fish if additional recipes were available, and placed recipes for fish sauces and baked fish highest on the list of "most-wanted" recipes.

Haddock took top honors as the fish "most often served" and "liked the best." Haddock had been served by 96% of the women surveyed; followed by salmon, 88%; mackerel, 83%; halibut, 80%; swordfish, 73%; and cod, 67%.

In the tabulation of fish liked best, haddock was an easy first choice, followed by swordfish, salmon, halibut, mackerel, and flounder, in that order. Cod ranked ninth on the list because of its numerous "aliases" such as scrod, salt fish, smoked fish, and fish balls.

Atlantic Engine Supply in New Quarters

Atlantic Engine Supply, Inc., formerly located at 296 Atlantic Ave., Boston, Mass., has opened new, enlarged office, showroom and service facilities at 491 Neponset Ave., Boston 22. Waterfront docking space near the firm's shop is available for engine installation.

The Company is distributor of Nordberg Diesel and gasoline engines covering the territory from the Connecticut River to Eastport, Me. It also distributes Sheppard Diesel engines and Double Seal piston rings.

Personnel of Atlantic Engine Supply includes Fred L. Broydrick, president and general manager; Lester R. Gawlocki, vice president and treasurer, Edward A. Murphy and John Forrest, sales representatives.

The following dealers have been appointed to handle the Nordberg marine engine line: Central Wharf Oil & Supply Co., Portland, Me.; Boothbay Harbor Crab & Lobster Co., Boothbay Harbor, Me.; C. H. Rich, Southwest Harbor, Me., and Port Edgewood, Inc., Edgewood, R. I.

Among recent sales of Nordberg marine gasoline engines for fishing boats were 135 hp. models with 1.88:1 reduction gear for Charles Pye, Small Point, Me.; James Floyd, Portland, Me.; Paul MacVane, Cliffs Island, Me.; John DeRocha, Cohasset, Mass.; a 135 hp. engine with 2.4:4 reduction for Charles Chase of Harwichport, Mass.; and a similar model with direct drive for Morris Carlson of Kittery Point; a 104 hp. direct drive model for Albert H. Barlow of East Boothbay, a 90 hp. direct drive for S. (Skipper) White of Plymouth, Mass. and a 90 hp. model with 2.5 reduction for Thomas Martin of Cape Elizabeth, Me.

NEW JERSEY

Party Boats Make Good Catches

Catches on Cape May County party fishing boats were high the week-end of June 19, and party skippers are optimistic over the success of the fishing season. Takes on the 125 boats in the fleet averaged 350 weaks and 560 porgies to a vessel. Fishing along the Delaware Bay front area has been good, and the drum season has been one of the longest on record.

Party boats operating from Townsend's Inlet reported good catches the week-end of June 12. A party of 15 on Capt. Frank Schlauer's *Evalaine* landed 300 porgies and sea bass, and a party of similar size on Capt. William Schaudt's *Ada May II* brought back about the same number of porgies and sea bass. Fishing with Capt. Harry Countiss on his *Muriel*, a party of 7 pulled in 125 bluefish. Kingfish were running off Ocean City the middle of June.

Damaged Waterway Markers Restored

The Navigation Council of New Jersey's Conservation Department has been restoring damaged waterway markers in Barnegat and Little Egg Harbor Bays during the past two months. The severity of the past Winter resulted in damaging or obliterating the existing stakes, buoy markers and other inland waterway aids to navigation.

Record Drumfish Catch

Capt. Axel Olsen and his sons Ted and Jack recently unloaded a record catch of 200 drums at the O. A. Huf fish dock in Ottens Harbor. The average weight of the fish, which were caught two miles off Wildwood, was 80 lbs.

Stricter Enforcement of Sunday Clamming Ban

Joseph N. Fowler, director of the Shell Fisheries Division of the New Jersey Department of Conservation, recently announced that the State law prohibiting clamming on Sundays will be more strictly enforced in the future. He said that stricter enforcement of the statute is possible now because more shell fishery guards have been hired and because a number of private citizens have volunteered to act as "special shell fishery protectors."

Tuckerton Boatyard Changes Hands

Capt. Sidney Pearce has purchased the former Crozer-Smith Marine Railway and Boat Basin in Tuckerton, which he is now renovating. In announcing plans for the operation of the yard, Capt. Pearce said that in addition to general overhauling and painting, marine motors and supplies will be offered for sale.

Two Fishermen Burned in Boat Explosion

Carmen Conti, 19, was seriously burned and his brother Mario, 17, sustained lesser burns in an explosion aboard the former's 30′ commercial fishing skiff *Carmen* on June 24 at a dock in Sea Isle City. The brothers were preparing to leave on a fishing trip at the time of the explosion, which occurred as gasoline was put into the tank. The boat was sunk in order to put out the flames.

Florida Crawfish Movements, Habits, Growth Studied

An interim report on the Florida Crawfish Investigation has been issued by the Marine Laboratory of the University of Miami which, with the cooperation of J. T. Hurst, supervisor of the Florida State Board of Conservation, his agents and commercial fishermen, has been attempting to find the cause of decline in production in this fishery. The report follows in part.

During 1944-45 the volume of lobsters landed in the spiny lobster industry (in Florida) decreased to about one half of the 1943 volume and to little more than one third of the amount landed during 1941, which was the year of peak production. Since it was suggested that the cause of this might be overfishing, the University of Miami Marine Laboratory has, since 1945, carried out research into this industry on a restricted scale and expects to complete the investigation by October 1948. The present report is merely a brief summary of progress to date.

In order to investigate the rate of growth of the crawfish and the extent of their migration and in order to obtain an estimate of the total number of crawfish existing on the bottom, a total of approximately 3,000 were marked by means of specially numbered tags. Careful notes were kept on the size of the crawfish and the place from which they were released. A reward of $1 was offered for the return of all recaptured tagged crawfish, provided that the crawfish itself is returned in a condition fit for measurement.

From a study of the tag returns it has become clear that these fish travel very considerable distances. The average distance travelled between the date of release and the date of recapture was 10 miles. The average time during which the crawfish were free was 66 days so that on an average they travelled just over one-fifth of a mile per day. Some, however, travelled as much as five miles in one day and one of the lobsters travelled from South Cudjoe Key to Loggerhead Key, a distance of 100 miles. These migrations are very considerable and far greater than was suspected previous to this survey.

Figures on the rate of growth are not complete but they indicate that at market size a growth of about one inch per year takes place. Calculations based on the tagging and measuring program show that an area of 20 square miles may be populated by as many as 100,000 crawfish. At the same time, owing to migrations, the area may rapidly become almost barren of crawfish. In the same way an area which is poorly supplied with crawfish may be repopulated the next year, or even in a few months.

For the purpose of studying the life history and sexual behavior of the crawfish, samples have been taken at all times during the year from Key West to Palm Beach. A total of 20,000 were examined in this way. Each of these was measured and its breeding condition noted. In many cases the crawfish were also weighed. As a result of this prolonged and tedious work it has been shown that mating occurs during the Spring months of the year and that the females are mature when they are as little as half the market size. The females migrate to deeper water when releasing the eggs and are later followed by the males. All tend to return to shallower water during the Winter.

Since the weight limit now used for conservation purposes is difficult to estimate and enforce it is recommended that a length limit be used. Several hundred specimens have been weighed and tabulated and as a result it has been found that the one pound live weight corresponds to a total length of about nine and one-half inches. It is therefore recommended that a nine and one-half-inch size restriction be used instead of the one pound weight limit.

The active season of egg bearing has been found to reach its peak during May, June and July and the present closed season is therefore considered to be entirely adequate.

Further work has been carried on to test the efficiency of different types of traps and to estimate the destructiveness of different types of fishing. This cannot be reported in detail at the present time but sufficient data has been accumulated to show that undersized crawfish may be taken with any type of trap at present in use and that a small increase in the spacing of laths in wooden traps will not materially aid in preventing the catch of undersized fish.

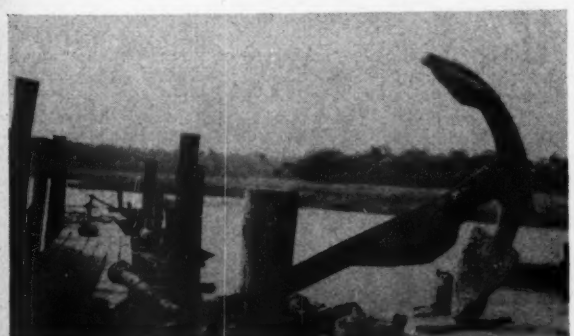
The 59′ shrimper "Sea Bee" owned by St. Augustine Fisheries, St. Augustine, Fla. and skippered by Capt. C. Daniele. Built by Diesel Engine Sales Co., Inc., St. Augustine, she is equipped with a 115 hp., D13000 Caterpillar Diesel with Snow-Nabstedt reduction gear, Columbian propeller, Surrette batteries, Columbian rope, Roebling wire and uses Esso lube oil.

Georgia Shrimper Lands Old Anchor

Shrimp fisherman Capt. George A. Kittles of the *Larry G.*, Valona, Ga., landed an unusual catch last month. It was a coral encrusted anchor measuring 9′6″ in length with a cross bar of the same length and a spread of 7′6″ between the points of the flukes. The stem of the anchor was 7″ in diameter and the flukes were 18″ across at the widest point. Coral on the stem was over 12″ thick.

Capt. Kittles snagged this anchor off Sapelo Bar while shrimping and decided to remove the obstruction. After three hours of work he and his crew had it, chain and all, on deck.

It later was learned from Capt. J. E. Atwood of Townsend that a sailing vessel which stopped in port in 1896 had slipped its anchor in that vicinity after failing to hoist it. Salvage operations were attempted at the time by Capt. Gunderson with his schooner *Mary*, but were abandoned due to heavy seas.



A 9′6″ anchor removed from the shrimping grounds off Sapelo Bar, Ga., by Capt. George A. Kittles of the "Larry G."

Menhaden Plant Damaged by Fire

Fire recently destroyed a dryer set at the Menhaden Reduction Corp., Fernandina, causing damage estimated at between $80,000 and $90,000. This was the second disastrous fire in recent years for the concern, since practically the entire plant was destroyed by fire in 1943, and rebuilding was completed only a few months ago. Gilbert Smith is operator of the plant.

"Gypsy Girl" Changes Hands

The Island Seafood Co., which was formed recently at Fernandina, has purchased the 65′ trawler *Gypsy Girl* from the Fernandina Shrimp Co. The Island Seafood Co. was formed by Glenn Perkins, Harold Condon and Oscar Sorensen.

Gulf Shrimping Suspended In Inside Waters

The Summer closed season on shrimping in inside waters of Louisiana started June 21 under a new law which repeals a 1946 act, and gives new definitions of inside waters as well as changes the dates of the closed season.

The measure outlaws shrimping in inside waters between February 15 and April 15, and June 21 and the second Monday in August of each year. Outside waters are not closed to shrimping.

Inside waters are defined as all bays and sounds along the Louisiana Coast and the waters of the Gulf of Mexico east of the Mississippi to Southwest Pass, and between the cutoff at Rabbit Island or the boundary between St. Mary and Iberia Parishes to the Sabine River west of the Mississippi where water is less than three fathoms deep.

Notice has been given by the Mississippi Sea Food Commission that the closed season on shrimp in inside waters of that State went into effect June 28. A maximum of 10 lbs. a day per boat is permitted.

Regulation 58, effective June 10, closed the season for commercial shrimping in Alabama's inside waters, which include the area north of a line beginning at a point where the Alabama-Mississippi State lines intersect the southern shore of Petit Bois Island, running thence eastwardly along the southern shores of Petit Bois and Dauphin Islands, Fort Morgan, Gulf Shores and Perdido Bay to an extension of the Alabama-Florida State lines.

Oyster Take Shows Big Gain

The oyster take for May in Louisiana's principal landing areas was 53,200 barrels, and showed a gain of 132% over the yield during the same month of last year. Of the total, 45,800 barrels were taken by canneries.

Production of the bivalves for the first 5 months of this year amounted to 349,300 barrels, which was an increase of 59% over the take during the 5-month period of 1947.

The 13,800-barrel May shrimp catch showed a jump of 500 barrels as compared to May of last year. A total of 1,700 barrels went to canneries. Production of shrimp for the five-month period amounted to 47,100 barrels, for an increase of 4,800 barrels over the same period of 1947.

The hard crab yield during May was 2,176,300 lbs., which was over one million lbs. larger than that of the same month last year. The five-month catch amounted to 3,705,000 lbs., and also showed an increase of more than a million lbs.

Shrimpers Form Independent Union

Shrimpers in the Morgan City, La. area voted on June 14 to break with the CIO and form an independent union. The name of the new organization, for which a charter is being drawn, is the Gulf Coast Shrimping Association. P. A. LeBlanc is president; Norman Gaudet, vice-president; and J. M. Price, secretary-treasurer.

The board of directors of the new independent includes Robert Goodbread, Gene Olsen, Armond Picou, John Duffy, E. J. Fabre, Lester Leger Charles Young, Roy Adams and Edward Marques.

Trawler "Lucille" Burns

The 38′ shrimp trawler *Lucille*, owned by Edward Broussard of Berwick, La. was destroyed by fire June 20 in the Atchafalaya River about two miles north of the Berwick Bay bridge. The fire is believed to have started in the engine room. The owner's son, who was the only person on the boat at the time the fire broke out, was rescued by a small skiff.

Converting Two Barges into Shrimp Boats

The Intercoastal Shipyard, Morgan City, La., is converting two landing craft barges into small shrimp boats for the Patterson Engineering Co. of New Orleans.

Fishing Boats Now Exempt from Gasoline Tax

A bill exempting commercial fishing boats from State gasoline taxes was given final approval June 22 by the Louisiana Legislature. Through a measure enacted earlier, Louisiana's gasoline tax rate had been increased from 7 to 9c a gallon.

The fishing boat "Buda" owned by Peter Sekul of Biloxi, Miss.

Boudreaux Machine Shop in New Building

The machine shop of Claude A. Boudreaux, Morgan City, La., who specializes in manufacturing special equipment for boats and plants, has been moved into a newly constructed building. Rigging boats, including engine installations for shrimp production, is a part of the work done by the firm. Among other items, Boudreaux carries Universal marine engines.

Work on the new Mississippi Fishermen Trawl and Marine Supply building at Biloxi was nearing completion the end of June, according to M. Glavan, Sr., proprietor.

Easterling Heads Pass Christian Fishermen

Lamar Easterling has been elected president of the Gulf Coast Shrimpers and Oystermen's Association of Pass Christian, Miss., succeeding Cliff Sims, who resigned recently. Frank Daily and John T. McDonald were re-elected vice-president and secretary, respectively.

Named to the board of directors were Leroy Ladnier, Herman Finhold, Joe Benigno, Pete Cox, George McDonald, Frank McDonald, Fred Castelin, Frank Szymanski, Richard Purchner and Felix Pavolini.

Closing of Delmas Bayou Requested

The Port Commission of Pascagoula, Miss. has requested Federal permission to close Delmas Bayou, a tributary of the Pascagoula River, with spoil material from channel dredging in the River and other improvements planned for the port of Pascagoula.

The Mississippi Sea Food Commission also has requested that the Bayou be closed, for the purpose of improving the oyster beds in Pascagoula Bay.

Eight Oyster Reefs Closed

In line with the announcement of early May that an experimental year-round open season on oyster tonging would be permitted in Alabama except on those reefs where seed oysters and shells had been planted this year, Conservation Director Bert E. Thomas has promulgated Regulation A-60, which became effective June 1. It closes the following eight reefs until reopened by a future regulation: Cat Island Reef, near the southern end of Cat Island in Mobile County; Big Shoals Reef, on the north side of Little Dauphin Island in Mobile County; Club House Reef, at the northeast end of Portersville Bay in Mobile County; the southeast end of Fish River Reef, near the mouth of Fish River in Baldwin County; Bon Secour Reef, also known as State Reef, at the mouth of Bon Secour River in Baldwin County; Three Rivers Reef, west of the Little Point Clear Reef in Baldwin County; Wolff Bay Reef, at the north end of Wolff Bay in Baldwin County; and Perdido Bay Reef, southwest of Palmetto Creek in Baldwin County.

Great Lakes Fisherman to Open Mullet Cannery

Commercial fisherman George LaBlance, Jr. is constructing a canning plant in Charlevoix, Mich., in which the first large-scale fish canning operation in the history of Michigan's commercial fisheries is scheduled. The product, which may open an entirely new fishing field, is cooked, smoked, canned mullet, the process for which is being patented. Headed by LaBlance as president, the firm will be known as LaBlance & Co. and will can 10 tons of fish in eight hours, employing about 30 people.

The canning of mullet is being compared to salmon and tuna. LaBlance developed the present process for preparing the fish after two years of experimentation.

The fresh water mullet has not been affected by the sea lamprey and is plentiful in all the Great Lakes as well as in the inland lakes. Unlike trout and whitefish which suffer from handling, the mullet can be caught and kept in "live boxes" and used as needed. Many fishermen have announced their willingness to fish for the mullet. Approximately three million pounds of the species now are produced annually by Michigan commercial fishermen for the fresh fish market.

Superior Fishermen Taking Unusually Large Trout

Commercial fishermen operating out of Marquette, Munising, Grand Marais, Brimley and other nearby Michigan ports on Lake Superior are catching unusually large lake trout. Fish running from 10 to 30 lbs. in weight have been taken recently, with set hook lines producing the biggest fish. Fish production in general has been good in this area.

The major portion of the lake trout, whitefish and lake herring produced by the Marquette, Mich. fishing fleet is being purchased by the Peter Anderson Fish Co. at Marquette. Anderson recently constructed a new building on the fish dock at that port, and has expanded his fish operations greatly.

Fish production in the Escanaba, Mich. area was steady during June, with several sizable takes of lake trout made. Lake Michigan pound netters report good catches of whitefish, and the fleets in the northern part of the Lake, especially the Manistique fleet, have made some profitable hauls of lake trout recently. One operator reportedly brought in a 1,200-pound catch of this species.

Eugene L. Hill, owner and operator of the 60′ all-steel fish tug *L. P. Hill*, has moved his operations from Grand Haven, Mich. on Lake Michigan to Grand Marais on Lake Superior for the remainder of the year.

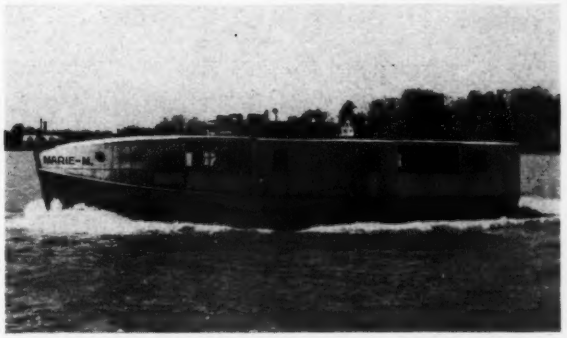
Lake Michigan Smelt Take Shows Increase

The Lake Michigan smelt catch reached 558,892 lbs. in the first four months of this year, up from less than 200 lbs. in 1944. Last year's production was 341,572 lbs., while that of 1946 was 59,788 lbs., and the 1945 catch 43,483 lbs. Peak smelt production of the Lake was 3,019,543 lbs. in 1941, which was just two years after production had reached a level a little above that of the first four months of the current year—612,650 lbs. in 1939.

This is said to indicate that 1949 will be a record year for production of smelt from Lake Michigan, which is the major smelt fishery of the Great Lakes region. Green Bay is the center of the smelt netting grounds in the Lake.

Yellow pike perch (walleye) production has shown a decline in Saginaw Bay. Fishermen took only 64,349 lbs. of walleyes this April, less than half the catch in April, 1947, of 128,919 lbs., and far below the April, 1946 production of 596,163 lbs. Last year of the big hauls was 1942, when 1,303,438 lbs. were taken from the Bay.

The 46′ tug "Jackie C." owned by Capt. John H. Cross of Charlevoix, Mich. She is equipped with a 150 hp. Cummins Diesel and a 30″ x 30″ Michigan propeller.



The all-steel 50′ tug "Marie M." owned by Charles Mahler of Put-in Bay, Ohio. She is equipped with a Chrysler marine engine and a Michigan propeller and has a speed of 13 mph.

Two Tugs Get Radiotelephone Equipment

Ship-to-shore telephones recently were installed on the fishing tugs *Peter A.*, operated by the Anderson Fish Co. of Marquette, Mich., and the *LaBelle* of the Brown Fisheries fleet plying out of Whitefish Point, Mich. Much interest in the sets has been shown by Lake Superior fish tug operators who contemplate installation of such equipment.

Seafood at Home Economists' Convention

Fish and shellfish were exhibited at the annual convention of the American Home Economics Association in Minneapolis, Minn. June 21-24 by the Fish and Wildlife Service, in cooperation with the National Fisheries Institute. Members of the Institute contributed many of the products on display, and a new supply was provided each day. While emphasis was placed on species from the Great Lakes, salmon, halibut, oysters, clams, scallops, lobsters, and many other species were used, including canned fish. Mrs. Rose Kerr, Fish & Wildlife home economist, was in charge of the exhibit, which was visited by 3,000 home economists.

Booth Fisheries Celebrating 100th Anniversary

Booth Fisheries Corp., Chicago, of which R. P. Fletcher, Jr. is president, is celebrating its 100th anniversary. Booth was one of the pioneers in the American fishing industry, and is now aggressively leading in the production of better quality products. Over the years the firm has conducted operations of production and distribution in almost every important fishing center in the country including Alaska, and has been the training school for many prominent fish men. Fletcher took over the management of the firm in the early 1930's.

Life Preservers Required by Coast Guard

The U. S. Coast Guard authorities in the Great Lakes region recently announced that small craft as well as large vessels must be equipped with life preservers of the approved type. They stated that regardless of the size of a boat one preserver must be carried for each person aboard if the vessel is powered with a motor.

Rhode Island Quahog Price Cuts Summer Out-Put

Production of large-size quahogs in Narragansett Bay may be relatively small this Summer if a price disagreement between the organized hand tongers and bull rakers and an east shore shellfish dealer is not resolved.

F. Nelson Blount of Warren, who buys not only from fishermen but from smaller dealers as well, reported June 16 that the price for large quahogs was down to $2.50 a bushel from a Winter high of $3.25 everywhere but in East Greenwich. In this community, members of the Rhode Island Shell Fish Protective Association are insisting on a $3 per bushel price, and have threatened to throw the large quahogs overboard and concentrate on littlenecks in the event of any sharp price drop. The current price of littlenecks at the fisherman level is $5.50 a bushel.

"Princess" Hails First Swordfish

The *Princess*, which is a member of the Point Judith Fishermen's Cooperative, hailed the first swordfish of the season on June 20. Her skipper and part owner, Capt. Dick Wagner, struck three fish which weighed 215, 325 and 335 lbs. each, and were sold through the Cooperative at $1.00 a pound.

At Block Island later in the month, Capt. Howard Fisher of the *Minetta* brought in a 300-pounder; Capt. Fred Hall of the *Otis* a 160-pounder; and Capt. Harry Allen of the *Jean* a 180-pounder.

Capt. Ole Olson, skipper of the Block Island boat *Ingrid III*, ironed 3 giant bluefin tuna south of the Island on June 22. Capt. Olson's total catch weighed 1,580 lbs., the largest fish being a 586-pounder. These fish also were distributed through the Cooperative.

Mackerel were beginning to run off Watch Hill the middle of June.

Two Fishermen Die

Capt. S. Wilfred Mott of Block Island, who had been a trap fisherman for many years, died on June 23. Capt. Mott was a grandson of Deacon Sylvester Mitchell, noted builder of the Block Island double-ender.

Capt. Andrew King of Jamestown, 68, died on board his fishing boat *Rainbow* off Block Island June 16. Capt. King was born in Jamestown, and had spent most of his life as a fisherman

"Stanbee" Gets New Engine

The 45′ *Stanbee* owned by Martin W. Hord of Matunuck, R. I., is being repowered with a NHMR602, 130 hp. 1800 rpm. Cummins Diesel. The engine is fitted with Twin Disc 2:1 reduction gear and power take-off and operates a belt-driven 1½ kw., 32 volt Imperial generator.

Provincetown Fleet Blessed

The first of what is to be an annual ceremony was held in Provincetown June 27, when 75 draggers, trap boats and dories of the fishing fleet were blessed by Bishop James E. Cassidy of the Fall River Diocese. Three hundred and fifty fishermen of the fleet marched in a parade to the Town Wharf, where the ceremony was held in the presence of about 4,000 persons, and streets were decorated with bunting and American and Portuguese flags. Arthur B. Sylvia was chairman of the committee which arranged the event.

Lobsterman Gets Whale Ride

Frank E. Cabral, Jr. of Provincetown returned to port June 27 with a thrilling tale of a bareback ride on a 60′ whale. Cabral and his father were hauling lobster pots in separate dories about 500 yards apart off Race Point when a huge whale suddenly came up under the younger man's dory, throwing him an estimated 15′ into the air. When the lobsterman came down, he was on the whale's back. After a short ride at 20 knots or better the whale sounded, and Cabral dove off and swam to his father's dory.

New Bedford Scalloping

(Continued from page 15)

In Spring and Summer a good vessel will make three trips a month, four only if she's exceptionally lucky, and high-liners for the month will be credited with catching about 3,000 gallons.

Boats used in the New Bedford scallop industry must be rugged craft. They run, usually, from 60′ to 70′ in length, weigh 30 to 70 gross tons, and are powered by 150 to 250 hp. Diesel engines. About 15 of the fleet drag for fish during the Winter and change over to scalloping in the Summer; the only additions necessary in these cases are two booms for handling heavy dredges, and tanks for shucking and cleaning the scallops. The same double-drum fishing winches, cables and forward gallows frames are used as on medium-sized draggers. Sea scallops are usually found on sand, or sand and gravel bottoms, but many of the grounds are covered with boulders, hence gear which can take a lot of punishment is required. Fishing is done usually in 30 or 40 fathoms of water.

Most of the New Bedford scallopers use two dredges, each 11′ wide. These are towed simultaneously, one from each forward gallows frame, and are brought up alternately and emptied on deck. The empty dredge weighs about 1,000 lbs. Smaller draggers with less power have used lighter dredges, eight to 10′ wide, others have tried dredges as big as 13′ across, but the 11-foot variety is now considered standard.

The frame of the dredge may last for several seasons, but is rebuilt occasionally as parts wear or are damaged. The bag requires repairs, with extra links and rings, at the end of each trip, and has to be completely replaced after about three trips on rough bottom; on smoother bottom fishermen say it will last for six to eight trips.

Scallops are sold to dealers from 7 to 7:30 a.m. daily, except Sundays and holidays, in the New Bedford Fish Auction Salesroom on City Pier 3. During June they were bringing about $4 a gallon, due largely to plentiful Summer supply; in the Winters of 1946, 1947 and 1948 they commanded as high as $6.25. A jump in price was felt immediately after OPA's wartime ceiling of $2.70 a gallon was lifted, and except for seasonal drops there has been no sign of a slacking-off since.

After purchasing scallops dealers usually repack them in consumer-size packages which weigh anywhere from eight ounces to 10 lbs. and ship them to their destinations either fresh or frozen, depending on the distance they're going. The main scallop-freezing establishments in the New Bedford area are Daniel F. Mullins' big new public freezer in Fairhaven, which has a capacity of 2,500,000 lbs. of fish and scallops; General Freezer and Storage Co., Inc. of New Bedford, also a public concern used by several scallop and fish dealers; L. S. Eldridge and Son, Inc. on City Pier 4, which advertises that it is the "largest dealer in Atlantic Ocean sea scallops" and which has recently leased property which will allow it to freeze and store 600,000 lbs. of scallops and fish; Acushnet Fish Corp. in New Bedford, and William Q. MacLean on Union Wharf, Fairhaven.

Large quantities of scallops are handled, though not frozen on their own premises, by Aiello Fish Co. on Greene and Wood Pier, Joseph Goulart Fish Corp. and Tichon's Fish and Fillet Corp., both on Homer's Wharf, all of New Bedford. There are of course any number of retail outlets for scallops in New Bedford and environs, but a heavy majority of the output of the big scallop-dealing houses and freezers is shipped to all corners of the United States and even, in some cases, sections of Mexico. A great part of the shipping is done by truck, some of which carry 50,000-pound loads. Scallops, when solidly frozen, can be kept safely for one year.

In the Fall months small, or bay scallops, are caught in waters close to shore by local shellfishermen; these are a minor part of the industry though locally they are considered better in flavor and more of a delicacy than the giant scallops.

Although New Bedford has at present no near competitors in the deep sea scalloping industry, New York City's production is increasing steadily and the port is currently sending 13 to 15 vessels to the scalloping grounds. A few vessels which used to put in at New Bedford to sell their catches now go direct to New York, which worries the Massachusetts city somewhat. Portland, Maine, and Provincetown, Massachusetts, are actively engaged in the industry, and the mollusks are landed at a number of smaller ports from Maine to New Jersey

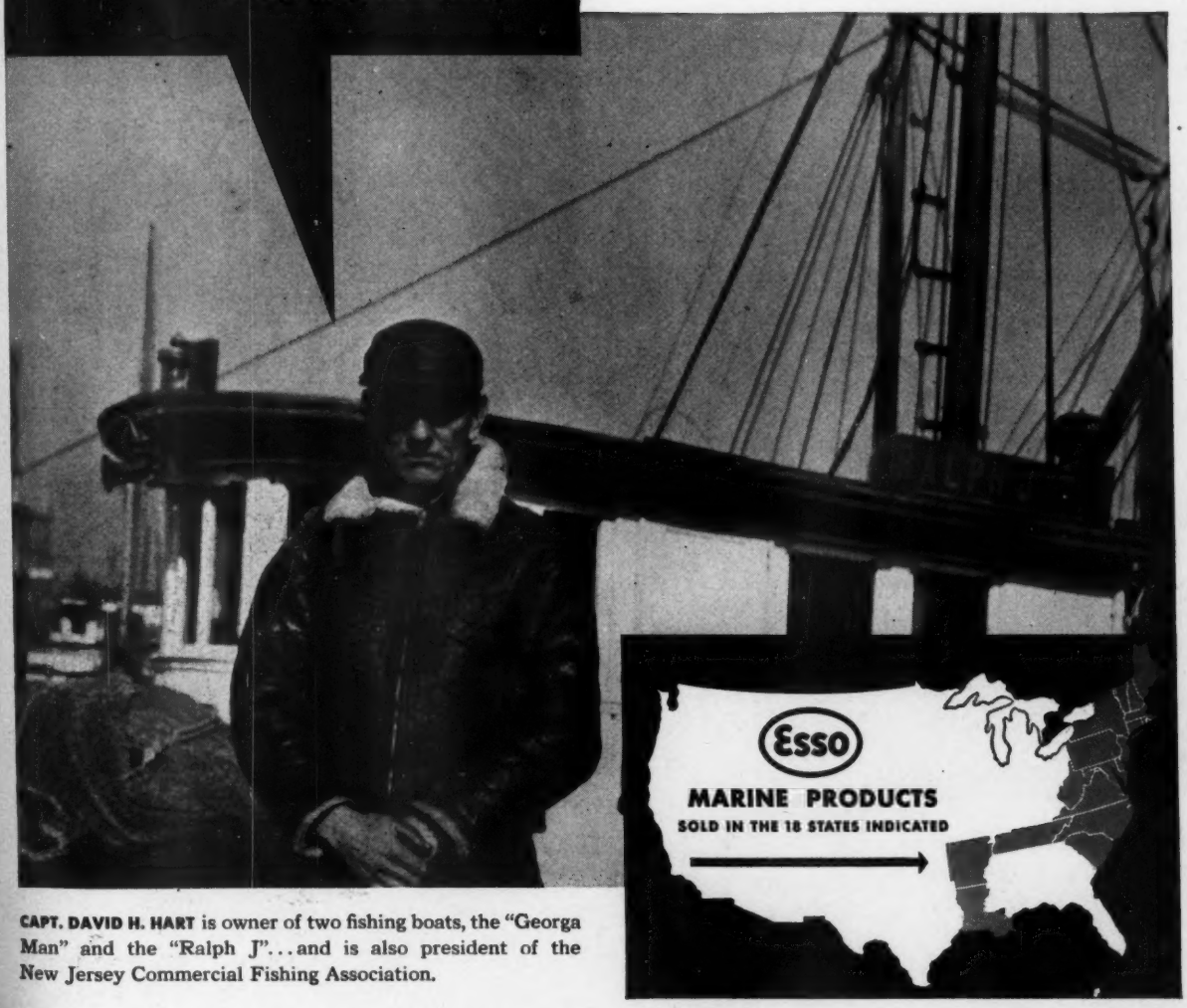
"I've had success with Esso Marine Products"

Says Captain David H. Hart of Cape May, New Jersey

"I have been a user of Esso Diesel Fuel and Essolube HD for many years and we ran the engine in the "Georga Man" five years before an overhaul. Then the mechanic sent back the bearings and pistons, saying it was a shame to take them out."

Statements like Captain Hart's tell why so many experienced fishermen rely on high-quality Esso Marine Products to help *protect* their equipment... and to give their fishing boats long years of *efficient* engine performance that profitable runs demand.

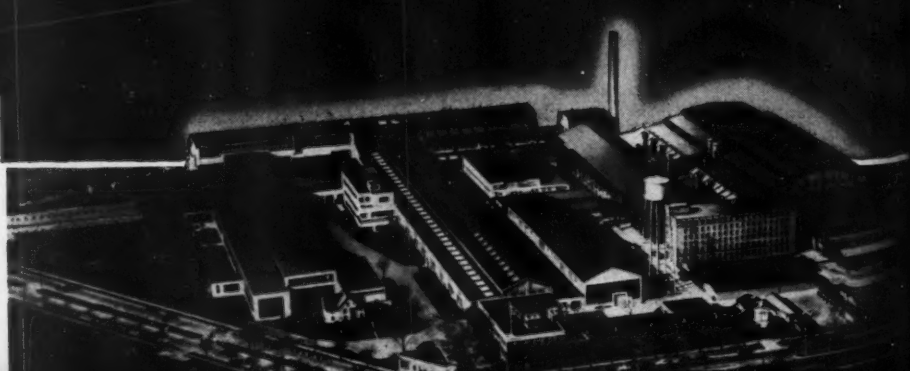
To help protect *your* fishing profits... USE ESSO MARINE PRODUCTS, the high-quality fuels and lubricants that have proved themselves dependable where proof counts most — *on the fishing grounds!*



CAPT. DAVID H. HART is owner of two fishing boats, the "Georga Man" and the "Ralph J"... and is also president of the New Jersey Commercial Fishing Association.

Famous NORDBERG Marine

Impressive proof of the quality and performance of NORDBERG Products is the growth of the company, from a small plant and six employees in 1886 to a group of factory buildings now occupying 700,000 square feet of space. A similar modern plant acquired in St. Louis recently, has greatly expanded NORDBERG facilities.



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Diesels Series 9 x 11½" and 13 x 16½", 4-cycle

NORDBERG now offers you in the new 9" and 13" bore Marine Engine Series, the same high quality of engineering skill, craftsmanship and modern manufacturing methods that have won an outstanding reputation in the manufacture of large NORDBERG Diesel Engines.

These new Marine Diesels incorporate the latest modern features—Simple, Compact, Sturdy Design; Trouble-Free Pressure Lubrication; High-Velocity Cooling; Quick, Responsive, Easy Controls.

May we have the privilege of sending you a copy of Diesel Engine Bulletin No. 134?

NORDBERG MARINE DIESEL ENGINES

9" Bore—Built in 6, 7, 8-Cylinder Models.

CONTINUOUS DUTY RATING

Non-Supercharged
—42 HP/Cyl. at 600 R. P. M.

Supercharged
—62.5 HP/Cyl. at 600 R. P. M.

Recommended speeds for marine service—600 and 720 R. P. M.

13" Bore—Built in 6, 7, 8-Cylinder Models.

CONTINUOUS DUTY RATING

Non-Supercharged
— 93 HP/Cyl. at 450 R. P. M.

Supercharged
—140 HP/Cyl. at 450 R. P. M.

Recommended speeds for marine service—450 and 514 R. P. M.

Above models are medium speed engines, direct reversing; designed for direct drive or a wide range of reduction gear ratios.

These 9" and 13" Bore NORDBERG-designed Diesels are built by the Superior *Division, St. Louis, Missouri.*

Gasoline Engines Models 230-320-340

THESE GASOLINE ENGINES were designed by the most widely experienced and successful engineers in the marine field and incorporate many practical and outstanding features, such as: NORDBERG-Designed-and-Built Internal Helical Gears and Pinion-Type Reduction Gears; NORDBERG-Designed-and-Built Planetary-Type Reverse Gear, (88% Reverse); High-Velocity Cooling through Six Drilled Passages, Providing Efficient Cooling of Valve Seat Areas; Large Access Openings to Facilitate Cleaning and Inspection.

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NORDBERG MARINE GASOLINE ENGINES

Models 230-320-340—four-cycle, six-cylinder type, in sizes up to 135 B. H. P. at 3000 R. P. M. Available for direct or reduction-gear drive in ratios of 1.88, 2.44, 3.32 and 4.12, fitting power requirements from high-speed 17-foot runabouts to twin-screw medium cruisers up to 80 feet—and work boats up to 50 feet in length.

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GASOLINE and DIESEL ENGINES

Gloucester Redfish Landings Establish New Record

Gloucester had its greatest redfish month during May, when 27,087,000 lbs. were landed in 252 trips, surpassing the catch during the previous record month of July, 1946 by 3,300,000 lbs. The value of the catch to skippers and fishermen was estimated at $975,000, to the shore workers, some $270,000.

May redfish production brought the total for the first five months of this year to 66,731,000 lbs., landed in 712 trips. This was two and one-half times the catch in the first five months of 1946, when 526 trips yielded 28,196,000 lbs. It was in 1946 when Gloucester had its record redfish year.

Total fresh fish production for the first five months of this year amounted to 78,060,600 lbs. in 875 trips, which was 26% higher than for 1946, Gloucester's record year for fresh fish.

Gloucester had her greatest groundfish day for some time on June 28, when 8 craft reported with good-sized fares, mostly haddock and cod. The vessels landed a total of 492,000 lbs., including 89,500 lbs. haddock, 60,000 lbs. scrod, 128,000 lbs. cod, 68,000 lbs. yellowtails, 134,000 lbs. pollock, and 12,500 lbs. mixed. The best trip of the day was that of the *Barbara C. Angell,* Capt. Cecil Moulton, which landed 110,000 lbs.

The dragger *Kingfisher,* Capt. Ralph Jensen, landed 189,500 lbs. of groundfish, mostly haddock, on July 1, grossing in the vicinity of $12,000 for a share of nearly $500 per man.

Another banner trip was that of the *Theresa M. Boudreau,* Capt. J. Alphonse Boudreau, which landed 200,000 lbs. of fish, including 170,000 lbs. of pollock—an unusually large amount of that species. The craft had a gross stock of about $7,500.

The dragger *Ronald and Mary Jane,* Capt. James N. Tucker, made a fast trip recently, landing 178,000 lbs. of redfish on June 10 after a five-day trip to Tobins.

Fleet Blessing Highlights St. Peter's Fiesta

Gloucester's eleventh annual celebration of St. Peter's Fiesta came to a colorful conclusion June 29 with a band concert and fireworks display. Other features of the celebration, which began June 26, included a parade, street dancing, dory and seine boat races, blessing of the Italian-American fishing fleet, greased pole walking contests, foot races and religious rites.

The blessing of the fleet was the highlight of the program, and took place on the 27th with Bishop John J. Wright of Boston officiating before an audience of 15,000 persons. Sixty-five flag-bedecked vessels of the fleet were blessed, and at the conclusion of the ceremony Bishop Wright cast flowers on the harbor waters in memory of fishermen lost at sea.

Winner of the seine boat races that were held on the day of the blessing was the *Jennie and Lucia's* boat, Samuel Nicastro, skipper. Second place was taken by the *Nyoda,* captained by Joseph Orlando; and the *Capt. Drum,* Thomas Randazza, was last. In the races which took place the following day the *Nyoda* was first and the *Jennie and Lucia* second. Coming in first to win the dory races that day were crew members George Lumbruno, Joseph Sinagra and Philip Verga.

"Jennie and Lucia" Has Good Mackerel Trip

The seiner *Jennie and Lucia* hailed for 105,000 lbs. of mackerel at Gloucester on June 24, which represented the best catch at that port for a year and brought 5½c a pound.

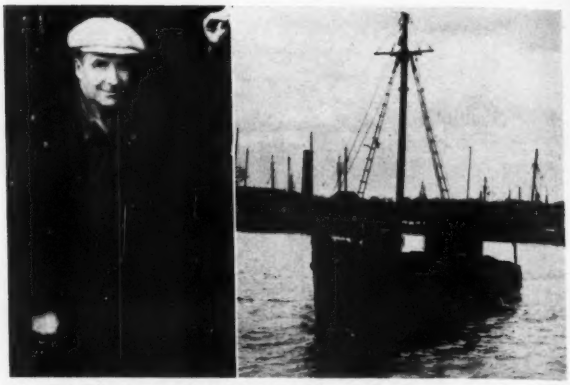
A total of 11 seiners landed at Gloucester on the 24th, bringing in 745,000 lbs. of mackerel. Other good catches included 85,000 lbs. brought in by the *Ida and Joseph* and 80,000 lbs. brought in by the *Mary W.*

Swordfishing Season Starts

The first swordfish craft to sail out of Gloucester for the 1948 season was the *Doris F. Amero,* Capt. Nels Amero, which left on June 22. Other vessels which left for swordfishing in the next several days included the *Mary M.,* Capt. Percy Pieroway; *B. Estelle Burke,* Capt. Thomas Murray; and *Evelyn G. Sears,* Capt. John Burnham.

New Fish Plant Formally Opened

Collins & Lee Co. of Gloucester, Inc., held a formal opening of its new fish plant June 5 when manager Arthur J. Whalen and his staff were the hosts. The plant will handle all species of fresh fish as well as deal in smoked and salt fish, especially salt mackerel, with its products being marketed under the label of "Coleeco" brands.



The 57′ Gloucester dragger and gill netter "Agnes & Myrnie" owned by Capt. Axel Weiderman, left. She is powered by a 135 hp. D17000 Caterpillar Diesel, sold by Perkins-Eaton Machinery Co.

Approve Erection of Dehydrating Plants

The directors of the Gloucester Community Pier Association, Inc. met June 17 and unanimously voted to authorize the execution of a 20-year lease with Gloucester By-Products Co. for approximately 14,000 square feet of space on the State Fish Pier. The new firm plans to erect a dehydrating plant which would represent an investment of some $300,000. The Company was formed by Cape Ann Fisheries, Inc., Harbor Cove Fisheries, North Atlantic Fish Co. and Empire Fish Co.

At a previous meeting the Association voted to execute a 20-year lease with the Dehydrating Process Co. for some 25,000 square feet of land on the easterly side of the State Fish Pier. also to be used for the purpose of erecting a dehydrating plant. Both leases must now be submitted to the State Department of Public Works for approval.

Three Vessels Repowered

The 50′ *Sacred Heart,* formerly the *Poseidon,* owned by Capt. John Aiello of Gloucester has been repowered with a NHMRS603 Supercharged Cummins Diesel rated 175 hp. at 1800 rpm. with 3:1 Twin Disc reduction gear.

The 48′ *Lousam,* owned by Marshall Vessels, Inc., and skippered by Capt. Dick Marsh, has been repowered with a model HML602 Cummins Diesel rated 100 hp. at 1600 rpm. The engine swings a four-blade 27 x 23 Columbian propeller and is fitted with a 2:1 Twin Disc reduction gear and power take-off.

The *Calista D. Morrill,* owned by Carmello Capillo of Gloucester, and skippered by Capt. Ralph Brigham, has been repowered with a Model HMR603, 1500 rpm., 100 hp. Cummins Diesel with 3:1 Twin Disc reduction gear and Twin Disc power take off, turning a 40 x 28 propeller.

Surrette Supply Distributing Filters

Surrette Supply Co., 7 Sylvan St., Peabody, Mass., of which Charles Luther is marine representative, has been made New England distributor of Winslow Engineering Co. filters. A complete line of marine lubricating and fuel oil filters, representing one of the largest stocks in its territory, will be carried as well as replacement cartridges and filter units for all makes of filters.

The Company also handles Submarine Signal Company voltage regulators, and distributes Surrette storage batteries in the New England area.

The Virginia dragger *Whitestone,* Capt. Alton Hudgins, which is fishing out of Gloucester for the Summer, has been equipped with 32 volt, G-T-S-15 Surrette marine batteries.

The New Bedford draggers *Moonlight* and *Muriel & Russell,* owned by Morris Phillips, the *Solveig J.* owned by Capt. Rasmus Jacobsen, and the *Sandra & Jean* owned by Warren Northup of Wakefield, R. I. have been equipped with 32 volt, H-H-G-31 Surrette batteries.

FED UP WITH FINICKY POWER?

No fisherman can make money nursing a temperamental high-speed engine. Thousands have found that *Wolverines* pay off in terms of more hours of attention-free service — more time for fishing — more time at the scuttlebutt — more dollars in the bank.

Perhaps that's why the Wolverine has been known for a half century, from The Banks to Table Bay, as

The Workhorse of The Fishing Fleets.

You still can't beat the slow-speed, low-pressure Diesel for smooth, continuous heavy-duty plugging. Day after day, needing nothing but fuel and lube oil, a Wolverine sticks to *its* job and leaves you free for *yours.*

If your job is between 90 and 300 bhp, tell us what it is and we'll be glad to make a recommendation.

Write Department AF-748

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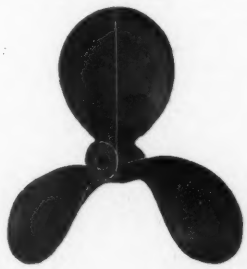
WOLVERINE MOTOR WORKS, Inc.

The "High Liners" must have efficient, dependable equipment



52" and LARGER

Where lives as well as profits are at stake both owners and skippers realize the necessity of using propellers of proven quality. That is why you will find Hyde Propellers on the "high liners" of the fishing fleet. Let the experience of the men who know be your guide—specify Hyde.

HYDE PROPELLERS

EFFICIENT . . . RELIABLE
ALWAYS GET HOME SAFELY

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PFLUEGER
(PRONOUNCED "FLEW-GER")
Fish Hooks
make
Better Catches

Superior quality of steel, long lasting finish, needle-sharp points and barbs... make PFLUEGER Hooks demanded by commercial fishermen. Made by folks who have served your industry for generations. Ask your supplier.

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(PRONOUNCED "FLEW-GER")
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Chesapeake Crab Industry In Unsettled State

The stalemate in crab meat production at Crisfield, Md., which came as the result of a dispute between the packers and the crab pickers union continued the latter part of June, and all packing houses with the exception of one were closed as far as picking operations were concerned. The stoppage of picking occurred some weeks ago when the packers notified the union workers that they would drop the price for picking crab meat from $1.00 per gallon to the old contract price of 85c per gallon. The packers claim that the lower rate is essential to the continued success of the crab business at Crisfield, since the picking rates are much lower in neighboring regions where crabs are produced.

The markets have been very well supplied with crab meat from southern and various Chesapeake Bay points recently, and the price has dropped considerably on all grades of meat. While crab meat continues to come into the market in its present volume, and unless prices stiffen, it is thought that little real attempt will be made to reconcile the views of the two factions.

Crabbing was poor in Virginia during the month of June, and as a result many of the crabbers have given up the business temporarily. One of the crab runboats which freighted 100 or more boxes per trip during June of last year, had a load of only 11 boxes of soft crabs on a recent trip to Crisfield.

Already eight scrapers have tied up their crab boats and left to work for the Smith Meal Co. at Amagansett, Long Island. They are Capts. Carroll Bradshaw, Howard Bradshaw, Stanley Parks, Lewis Parks, Robert Haynie, Frank Landon, Ashby Crockett and Merrill Crockett.

Extension of Lower Chesapeake Fishing Area

Major General R. C. Crawford, acting chief of Army Engineers, recently informed Senator Tydings of Maryland that after thorough consideration of the evidence submitted at hearings, the Chesapeake Fish Stake Board had concluded that the full 4-mile extension of fish stakes into the lower Chesapeake Bay, as requested by Virginia commercial fishermen, would not be in the best interest of local navigation. It was stated that a substantially smaller extension would provide ample additional fishing area at this time, and would not affect navigation adversely. Senator Tydings had lodged a protest from the Maryland Tidewater Fisheries Department against granting of the application.

Seed Oysters and Shells Planted

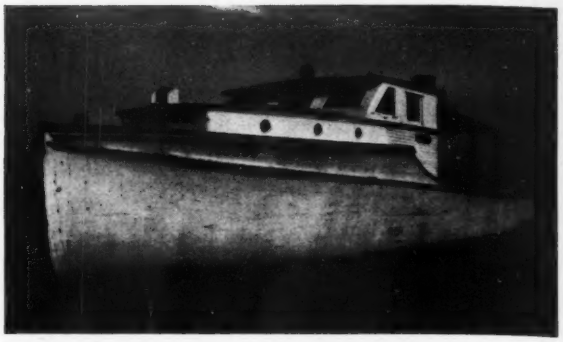
More than 350,000 bushels of seed oysters were planted in Maryland this year, as well as 290,213 bushels of shells and 3,000 tons of slag as cultch for new oyster growth. State Shellfish Culturist Ralph C. Hammer reported plantings had been made from three main cultivated seed areas and natural areas in State waters.

Oyster shells were planted by the Virginia Fisheries Commission in the James, York, Rappahannock, Great Wicomico and Potomac Rivers during April, May and June. The shells, bought by the State from dealers, were planted on public grounds as part of the annual program to replenish the rocks, beds and shoals in tidal waters.

A number of individuals and firms have applied for oyster planting ground in Virginia recently, including the following: Cuthbert & Hughes, Inc., Bohannon, 100 acres in Mobjack Bay, near Pepper Creek; J. M. Leigh, Gum Fork, 35 acres in the waters of York River, near Gum Pt.; J. W. Williams, Capahosic, 25 acres in the waters of York River, near Roanes Pt.; J. H. Miles & Co., Inc., Norfolk, 500 acres in the waters of Chesapeake Bay near York Spit Light; R. A. Johnson, Richmond, oyster ground in the waters of York River near Golf Point; and J. S. Norris and Son, Weems, 10 acres in Taylors Creek waters, near Corrotoman River.

Maryland Fishermen Hampered by Rain

Although a few good catches have been made, in general rainy weather has hampered Maryland fishermen. Capt. Herchel Catlin of Fairmount, Somerset County, made the top catch of the season the middle of June as far as big fish are concerned. While fishing his haul seine at the mouth of the Manokin River, Capt. Catlin caught 250 drum, ranging in weight from 25 to 75 lbs. each. Over 100 bushels of alewives filled the balance of the net.



The 47′ pound net boat "Miss Lill" owned by Capt. R. B. Mortimer of Tilghman, Md. She is equipped with Willard batteries, a Hyde propeller, Columbian rope, Ederer nets and a 91 hp. Gray gasoline engine using Gulf lubricating oils.

Virginia Supreme Court to Test Oyster Law

Virginia's Supreme Court of Appeals has taken under consideration of a case challenging the constitutionality of the State's seed oyster conservation law. The high State tribunal on June 9 granted an appeal to J. R. Haughton and the Oyster Tongers and Seafood Workers Union, AFL, from a decree of the Circuit Court of Richmond upholding the authority of State Fisheries Commissioner Charles M. Lankford, Jr. to ban the out-of-State shipment of seed oysters.

In their petition for an appeal, counsel for the oyster tongers argued that the permissible tax of 2c per bushel, applicable only to seed oysters going out of the State, is a burden on interstate commerce. They further attacked the law as unconstitutional under the "due process" clause. They contended it actually accomplishes no conservation, since the statute does not prohibit depletion of seed oyster resources for sale within the State. The statute also was assailed as giving the State Fisheries Commissioner authority to tax or not to tax as he sees fit, or to levy the tax against one tonger and not to levy it against another.

In an answer opposing the appeal, Assistant State Attorney General Walter E. Rogers asserted that the State's right to conserve its own resources by appropriate laws "cannot be questioned".

Insulated Shipping Carton Tested

A series of trials of a lightweight insulated carton for the shipment of frozen fish have been made between Boston and New Orleans and the College Park, Md., laboratory of the Fish and Wildlife Service. In each of the three tests conducted to date, the fish were frozen solidly upon receipt at destination, although the shipments had been from 47 to 66 hours in transit.

The container used consists of two cartons, one within the other, separated by about 1½″ of corrugated paperboard insulation. Preliminary results indicated that such a container, with the use of dry ice for refrigeration, will permit the safe movement of frozen fishery products in quantities of 25 to 50 lbs. by regular channels of distribution for relatively long distances.

Norfolk Area Landings

Fish production in the Norfolk, Va., area during June totalled 1,012,000 lbs., the greatest part of which came from pound nets —907,000 lbs. Sea trout landings, which were 410,000 lbs., led the varieties, followed by croaker, with 283,000 lbs., and scup, with 137,000 lbs.

Dr. Leslie A. Sandholzer Dies

Dr. Leslie A. Sandholzer, in charge of technological research at the College Park, Md., Fish & Wildlife Service Laboratory, died June 11. Dr. Sandholzer, who was noted for his work in the field of sanitation, was employed by the U. S. Public Health Service at Craney Island near Norfolk, Va., from 1940-42, after which he was transferred to F&WS as assistant technologist.

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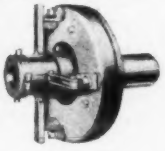

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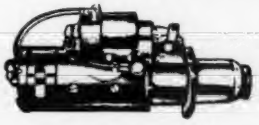

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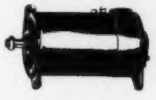

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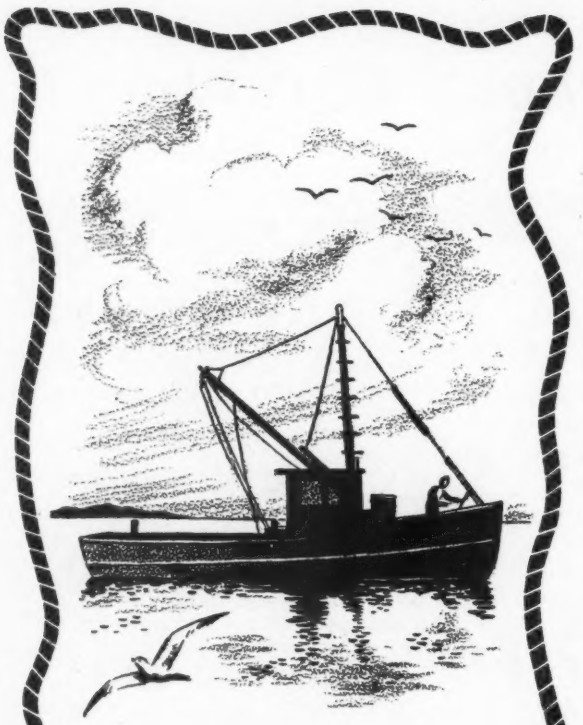

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NORTH CAROLINA

Menhaden Fishing Good

Although the overall menhaden catch through the end of June was somewhat behind that of last year—in some areas as much as 50%—fishing in North Carolina as well as in Mississippi has been quite good. The latest sales of menhaden fish meal have been at the $115 to $120 per ton level, basis Atlantic Coast shipping points, and about $6 to $7 less for sacked menhaden scrap.

Beaufort and Morehead City menhaden boats which went out to meet the Summer run of shad the end of June reported good success. Boatmen revealed that the run was the best for that time of the season in several years. The fish were near the shore, and as a result several of the boats were able to make two hauls daily.

The large menhaden boat recently launched by the Phillips Fisheries had her heavy mechanical equipment installed at Norfolk recently. Work on a second craft of the same size is well underway, with prospects of being launched by the first of the year.

The menhaden plant of Judge Lambert R. Morris, which is located east of Beaufort, was almost completely destroyed by fire June 24, with a loss of $35,000. However, the scrap warehouse, which contained approximately $12,000 worth of fish scrap, was saved. The plant will be rebuilt.

Party Boats Make Outstanding Catches

Gulf stream fishing off the Carteret Coast was especially good during the week of June 7, and the boats in the fleet owned and operated by Capt. Ottis Purifoy of Morehead City carried out parties that made outstanding catches of amberjack, dolphin, cero, red snapper, sea bass, false albacore and numerous other species.

Commercial Fisheries Division Moves

The offices of the Commercial Fisheries Division of the North Carolina Department of Conservation and Development have been moved into the administration building at the University of the Sea, west of Morehead City. The offices formerly were located in the building used as an infirmary during the war. Located there now are the offices of the Institute of Fisheries Research.

Conn. Oysters Near Spawning

A survey made by the Milford Fish & Wildlife Service Laboratory on June 23 showed that despite the comparatively low temperature of the water, Long Island oysters are accumulating spawn at a relatively rapid rate. This was found to be especially true of the oysters found at 10′ depths, where the average gonadal layer was approximately 2 mm. thick, and a few oysters had so much spawn that their gonadal layer measured up to 4 mm.

At the 20′ depths a rapid accumulation of spawning material also was noticed, while at 30′ the oysters, as expected, were somewhat behind those of the shallower stations. In general, the thickness of the gonadal layer of the oysters in the Bridgeport area was somewhat less than that of the oysters in the Milford or New Haven sections.

Activities in the Stonington Fleet

The *Carl J.*, owned by John Bindloss of Stonington and skippered by Bill Musante of Noank, was overhauled at the Palmer Boat Yard during June. Overhauled at Mystic was the *Ranger*, owned by Sterling Eyer.

Manuel Lima's *Portugal*, Dennis Cidale's *Carol and Dennis*, and the *William Chesebrough*, skippered by Jim Henry, all have been painted recently.

The *Sea Bird*, 30′ dragger and lobsterman owned by John Yesanowski of Jewett City, was launched the week of June 14 after being stored all Winter. Marion Pont, Jr. has purchased the 35′ dragger *Kwasind*.

The principal species taken by the Stonington draggers during June included scup, blackbacks and yellowtails.

The 50′ trawling and sportfishing boat "Shearwater" owned by Ottis Purifoy of Morehead City, N. C. and skippered by Capt. George Bedsworth. She is painted with Pettit paints and equipped with Willard batteries, a Columbian propeller, Ederer nets, Pflueger hooks and a 130 hp. gasoline engine using Esso lubricating oil.

Making Fish By-Products

(Continued from page 18)

ferences found between two or more lots of fish meal generally were attributed to it being a fat or a non-fat meal, or to the species of fish from which it was prepared.

The studies, on effect of manufacture soon disclosed that method of processing could have rather pronounced influence on nutritive value and that differences in quality formerly attributed to type of raw material could actually be due to processing methods.

It was found that temperature of drying had a definite effect on the digestibility of a fish meal. The higher the temperature, the poorer the digestibility. Also, length of time of drying had some effect.

It was found that temperature or condition of drying also had an effect on the biological value of fish meal protein. High drying temperatures decreased the percentage of the digestible protein that was assimilated. A possible explanation for this was shown in some chemical tests where evidence was obtained that certain amino acids were partially heat liable.

It was found that the water soluble proteins extracted by the wet process of rendering were of poorer biological value than the residual proteins of the press cake, but that in conjunction with other protein materials they represented a useful and satisfying supplement.

It was found that the stick water being removed by the wet process was a rather good source of certain water soluble vitamins and that a wet process meal was a less adequate vitamin source than a dry rendered meal.

Within the past fifteen years great advances have been made in identifying the specific nutritional requirements of farm animals. Study of the effect of manufacture has not kept pace. In the light of present knowledge on requirements, and with available methods for identification, further study of processing methods might be very fruitful. In 1930 the vitamin properties of fish stick water were attributed to what was then called the Vitamin I complex. At the present time possibly ten or more nutritional factors can be identified in fish solubles. In 1930 the amino acid requirements of chickens had not been established. Now this information is available. On the basis of present knowledge studies of manufacturing processes could be tied to more specific things than was possible when this type of study was prevalent.

Seek Re-establishment of Hatchery

The re-establishment of the Salmon River fish hatchery for the propagation of shad is one of the primary objectives of the recently formed Connecticut River Fishermen's Association. The hatchery would replace fish killed by polluted waters in flood seasons and those which are destroyed as the result of eels eating the spawn.

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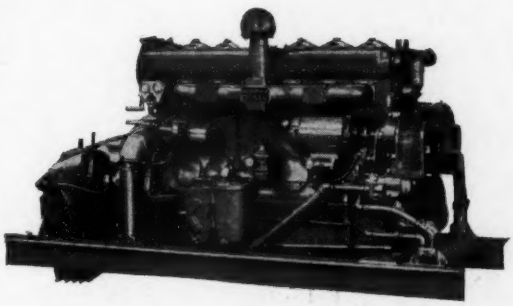

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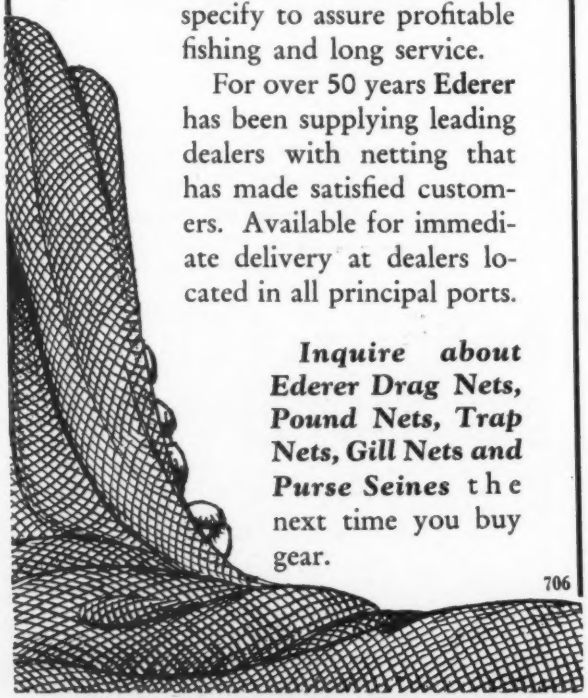

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LONG ISLAND

Tuna Run Underway

Tuna were running off Sayville the middle of June, and on the 12th the Sunrise Fish Company's traps caught 8 of the fish, averaging 600 lbs. each. On the same day the Long Island Fish Co. had 4 fish, with a combined weight of one ton.

Capt. Pat Cox of the Freeport party boat *Banshee II* brought in 9 good-sized tuna June 27, one weighing more than 75 lbs. This fish was the largest trolling fish brought into Freeport this season.

On the same day, Capt. Jake Weikert of the party boat *Ethelyn II* boated 22 tuna, which was the highest catch made at Freeport as of that date. Last year tuna failed to appear until the latter part of July, and there were very few fish caught trolling.

Thus far the Freeport party boats in general have made excellent catches. The open boats *Fisherman, Viking VII* and *Sailfish* continued to bring in good takes of mackerel the end of June.

On June 26 Capt. Wally Cooper of the party boat *Early Bird II* brought in a 400-pound swordfish. His party landed the fish 50 miles S.S.E. of the inlet. Besides the swordfish they brought in two tuna.

Brigham's Overhauls Menhaden Steamers

Menhaden steamers at Brigham's Shipyard, Inc., Greenport, the middle of June for repainting and repairs included the *Pocahontas, Elias F. Wilcox, Stephen W. McKeever, Jr., Edward McKeever* and *A. Brooke Taylor*. The vessels are owned by the Smith Meal Co., Amagansett.

To Dredge Channel in Meeting House Creek

The Suffolk County Board of Supervisors and the Town of Riverhead have agreed to split equally the estimated $35,000 cost of dredging a channel in Meeting House Creek. The Creek is to be dredged to a depth of 6′ with a width of 75′ from the bay to the railroad tracks. At the head of the Creek there will be 100′ of bulkheading and another bulkhead will be placed at the east side of the Creek.

Conservation Department Has New Patrol Boat

The New York Conservation Department has a new 32′ patrol boat for its Marine District. In appearance the vessel is similar to a lobster boat, and has a speed of over 20 miles per hour.

Duryea Starts Lobster Distribution Business

Perry B. Duryea & Son, Inc., Montauk Point, have started a new and unique lobster distribution business on the Island. They are supplied with the crustaceans by their recently constructed 62′ wet-well lobster smack *Lynn*, which transports the shellfish from Nova Scotia to Montauk, where they are transferred into large storage tanks that have a continuous stream of cold sea water flowing through them. The smack, which has a capacity of 18,000 lbs., made its first trip the last week in April, and has been making a trip each week since that time.

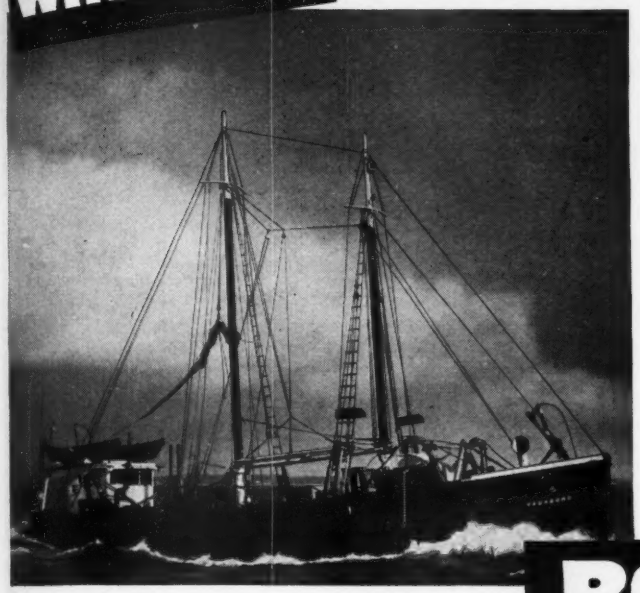
Council Displays Mastodon's Tooth

The Fishery Council of New York recently had on display the tooth of an elephantlike prehistoric animal called the mastodon. The tooth, which weighs 3¾ lbs. and is 6½″ long, was brought up in a scallop dredge from 150′ of water off Ambrose Lightship by the *Florence B.*, Capt. Chris Olsen.

Authorities of the American Museum of Natural History, who identified the molar, offered the theory that the mastodon floated down the Hudson River on an ice floe and plunged into the ocean off New York Harbor.

Over 500 people viewed the molar at the Council's office, and each visitor was given a copy of the recipe book "Fish 'n' Tips" and a special leaflet on whitefish, which was in good supply. The Council has presented the mastodon's tooth to the American Museum of Natural History.

WIRE ROPE that's a MASTER MARINER



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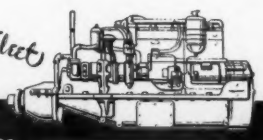

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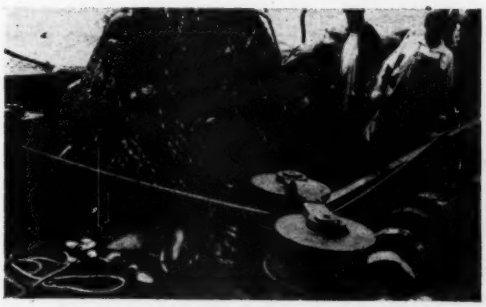

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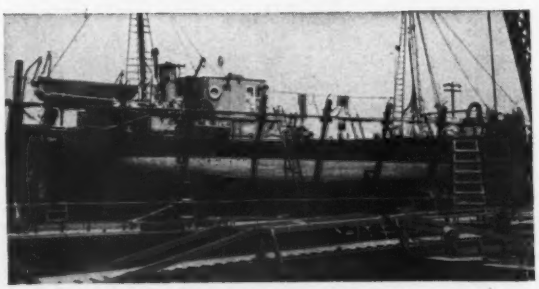

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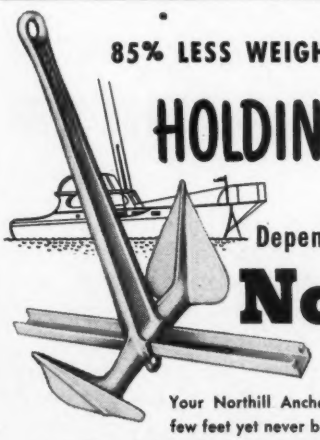

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Your Northill Anchor buries itself within a few feet yet never buries itself beyond recovery. Gives 5 times the holding power of ordinary anchors. A light vertical pull breaks it out easily. For quick bite-in . . . holding power . . . light weight—GET A NORTHILL ANCHOR. Folds for stowage. In sizes from 6 lbs. to 105 lbs., for boats up to 80 feet . . . Northill Anchors are Tops on the Bottom!

New! NORTHILL SMALL BOAT ANCHOR

Weighs less than 3 lbs. Only 12 inches long. Holds any boat up to 12 feet. Low priced at about $4.85.

designed by **Northill**

Northill Company, Inc.
Los Angeles 45, Calif.
Subsidiary of
The Garrett Corporation

Fish Landings for Month of June

(Hailing fares. Figure after name indicates number of trips.)

GLOUCESTER

Agatha & Patricia (1)	133,000	Madonna (4)	55,000
Agnes & Myrnie (4)	75,000	Magellan (1)	95,000
Alden (5)	255,000	Malolo (1)	98,000
Aliburton (3)	13,000	Manuel F. Roderick (1)	120,000
Alice Ann (1)	79,000	Manuel P. Domingos (1)	147,000
Alvan T. Fuller (1)	117,000	Margaret & Marie (7)	132,000
America (4)	144,000	Margie & Roy (6)	48,500
American Eagle (5)	134,500	Maria Guiseppe (1)	2,000
Angie & Florence (5)	203,000	Maria Immaculata (6)	125,000
Anna Guarino (4)	64,000	Maridor (1)	16,000
Annie (4)	58,000	Marie & Winifred (1)	72,000
Anthony & Josephine (7)	98,500	Marion & Alice (1)	120,000
Ariel (8)	113,000	Maris Stella (1)	150,000
Atlantic (2)	181,000	Marjorie (1)	42,000
Austin W. (2)	104,000	Marsala (1)	50,000
Avocet (1)	7,000	Mary (9)	132,500
Baby Rose (1)	140,000	Mary E. (3)	22,500
Barbara C. (7)	91,000	Mary F. Curtis (1)	150,000
Barbara C. Angell (2)	278,000	Mary & Josephine (1)	225,000
Beatrice & Rose (3)	126,000	Mary Rose (1)	163,000
Benjamin C. (2)	420,000	Mary W. (7)	301,000
B. Estelle Burke (1)	93,000	Mocking Bird (2)	182,000
Bethulia (4)	167,000	Mother Ann (2)	317,000
Bobby & Jack (2)	163,000	Nancy B. (1)	69,000
Bonaventure (1)	185,000	Nancy F. (3)	106,000
Brookline (1)	225,000	Nancy S. (1)	54,000
California (5)	187,000	Naomi Bruce (7)	6,500
Calista D. Morrill (1)	15,500	Naomi Bruce III (5)	162,000
Capt. Drum (6)	242,000	Natale B. (2)	23,000
Carlo & Vince (6)	229,000	Natale III (6)	324,000
Carol Anne (1)	180,000	Newton (1)	2,000
Caroline & Mary (2)	276,000	No More (8)	123,500
Carolyn & Priscilla (1)	91,000	North Sea (2)	119,000
Caspian (1)	53,000	North Star (6)	282,000
Catherine Amirault (1)	216,000	Novelty (8)	100,000
Chebeague (5)	114,500	Nyoda (3)	109,000
Cigar Joe (3)	146,000	Olivia Brown (1)	95,000
Columbia (2)	330,000	Olympia (2)	120,000
Conquest (1)	160,000	Pam Ann (1)	117,000
Corinthian (1)	220,000	Paul Howard (1)	160,000
Curlew (2)	169,000	Pauline M. Boland (1)	63,000
Dale (3)	24,500	Philip & Grace (2)	175,000
Dartmouth (1)	126,500	Phyllis & Mary (5)	166,500
Diana C. (4)	160,000	Pilgrim (2)	253,000
Dolphin (2)	259,000	P. K. Hunt (2)	246,000
Doris F. Amero (1)	97,000	Pollyanna (1)	120,000
Edith L. Boudreau (1)	110,000	Portugal (2)	87,000
Edna Fae (8)	19,800	Priscilla (5)	47,000
Eleanor (6)	254,000	Providenza (2)	36,000
Ellen & Jean (4)	24,000	Puritan (1)	165,000
Emily Brown (1)	174,000	Redskin (2)	225,000
Emma Marie (7)	80,500	R. Eugene Ashley (2)	112,500
Ethel V. Stowman (1)	31,000	Richard J. Nunan (1)	95,000
Eva G. Clark (5)	12,500	Rita B. (2)	190,000
Evalina M. Goulart (1)	95,000	Roma II (7)	10,000
Evelyn A. (2)	22,000	Ronald & Mary Jane (1)	178,000
Evelyn G. Sears (1)	60,000	Rose and Lucy (4)	155,000
Falcon (5)	72,000	Rosemarie (5)	185,000
Famiglia (1)	60,000	Rosie C. (3)	30,000
Florence & Lee (1)	240,000	Rosie and Gracie (5)	203,000
Flow (1)	196,000	Ruth Ann (1)	13,000
Frances R. (6)	205,500	Sacred Heart (5)	68,000
Frankie & Rose (5)	220,000	St. Anthony (1)	145,000
Gaetano S. (1)	152,000	St. Christopher (1)	151,500
Gale (1)	5,000	St. Joseph (4)	50,000
Geraldine & Phyllis (1)	105,000	St. Nicholas (1)	190,000
Gertrude E. (4)	34,000	St. Peter (1)	82,000
Gloucester (5)	162,000	St. Peter II (1)	84,000
G. N. Soffron (1)	105,000	St. Providenza (8)	93,000
Golden Eagle (1)	145,000	St. Rosalie (3)	124,500
Gov. Al Smith (1)	120,000	St. Victoria (1)	128,500
Helen M. (2)	145,600	Salvatore (1)	105,000
Hilda Garston (2)	292,000	Salvatore & Grace (2)	160,000
Holy Family (1)	130,000	Santa Maria (4)	153,000
Ida & Joseph (8)	378,000	Santo Antonino (5)	194,000
Immaculate Conception (3)	106,500	Sarah J. (1)	81,000
Irma Virginia (5)	72,500	Schoodic (6)	102,000
Jackie B. (7)	292,000	Sea Hawk (1)	95,000
Jackie B. (Me.) (1)	16,000	Sea King (1)	53,000
Jackson & Arthur (8)	110,500	Sea Queen (1)	70,000
Jane Carolyn (3)	130,000	Sebastiana C. (4)	188,500
J. B. Junior (5)	114,500	Serafina N. (6)	227,000
Jean & Patricia (8)	228,000	Serafina II (4)	82,500
Jennie & Julia (6)	320,000	South Sea (2)	153,000
Jennie & Lucia (6)	238,000	Sunlight (3)	474,500
Johnny Baby (7)	63,000	Superior (1)	85,000
Jorgina Silveira (2)	81,000	Sylvester F. Whalen (2)	236,000
Josephine & Margaret (3)	137,500	Theresa M. Boudreau (2)	426,000
Joseph & Lucia (1)	159,000	Thos. J. Carroll (2)	169,000
Joseph S. Mattos (2)	101,000	Three Sisters (5)	214,000
Josie II (8)	102,000	Tina B. (1)	122,000
Julie Ann (1)	185,000	Trimembral (8)	126,500
Killarney (1)	190,000	Uncle Guy (1)	85,000
Kingfisher (2)	465,000	V-E Day (1)	220,000
Leonard & Nancy (1)	107,000	Venture II (1)	144,000
Leretha (2)	160,000	Viking (1)	5,000
Lousam (3)	15,000	We Three (8)	116,000
Lucretia (6)	86,500	Whitestone (1)	73,000
Madame X (8)	120,500	Wind (2)	198,500
Madeline (4)	60,000	Yankee (7)	209,500

Scallop Landings (Gallons)

Bright Star (1)	1,000

PORTLAND

Alert (1)	1,000	Jack & Andy (1)	2,000
Alice M. Doughty (4)	373,000	Lady Luck (1)	5,000
Althea (3)	156,000	Lawrence Scola (8)	161,000
Andarte (1)	97,000	Lawson (4)	120,000
Annie Louise (6)	42,000	Machonoch (4)	235,000
Arthur D. (1)	10,000	Mary & Helen (10)	90,000
Athenia (1)	45,000	Mary S. (2)	10,000
Cara Cara (3)	337,000	Nautilus (3)	327,000
Carolyn & Priscilla (2)	107,000	Nora D. Sawyer (6)	71,000
Chanco (3)	293,000	Notre Dame (2)	163,000
Cherokee (3)	184,000	Onward (4)	24,000
Courier (2)	195,000	Powhatan (3)	211,000
Eleanor (1)	40,000	Resolute (2)	90,000
Elinor & Jean (1)	54,000	St. Michale (7)	73,000
Ethelina (2)	103,000	Silver Bay (1)	18,900
Grace E. (1)	1,000	Vagabond (1)	96,000
Grace W. (1)	6,000	Willard Daggett (3)	105,000

BOSTON

Acme (8)	115,800	Mary J. Hayes (3)	207,000
Addie Mae (9)	127,400	M. C. Ballard (2)	138,400
Adventure (4)	408,900	Michael G. (8)	117,700
Agatha & Patricia (2)	97,400	Nancy B. (2)	41,100
Albatross (1)	77,900	Natale III (1)	40,000
Alden (2)	137,000	Neptune (3)	228,500
Alphonso (7)	100,600	Nina B. (3)	222,200
Annie & Josie (8)	118,400	Noreen (2)	130,500
Arlington (3)	342,600	Nova Antonio (4)	28,900
Atlantic (3)	212,000	Ocean (2)	340,900
Ave Maria (7)	98,000	Ohio (3)	140,100
Bay (3)	259,500	Olympia (1)	25,000
Billow (1)	130,000	Olympia La Rosa (4)	169,500
Bonnie (2)	175,200	Paolina (4)	7,400
Breaker (3)	240,400	Phantom (2)	217,000
Breeze (3)	352,600	Pioneer (5)	81,900
Brother Joe (3)	46,100	Plymouth (3)	211,300
Calm (1)	229,000	Princess (9)	141,000
Cambridge (3)	244,500	Quincy (3)	306,600
Carmela Maria (Dragger) (4)	140,800	Racer (3)	314,400
Carmela Maria (L. Tr'ler) (3)	15,300	Red Jacket (1)	125,500
Carole June (3)	174,700	Reneva (1)	15,000
Catherine B. (Dragger) (5)	206,200	Richard J. Nunan (2)	80,200
Catherine B. (L. Tr'ler) (5)	31,500	Robert & Edwin (5)	71,700
Chas. M. Fauci, Jr. (2)	69,000	Roma (8)	109,700
Cormorant (2)	119,200	Rosalie D. Morse (1)	93,700
Crest (2)	409,500	Rose & Lucy (1)	45,000
Delaware (1)	136,000	Rosemarie (3)	134,000
Diana C. (1)	21,900	Rosemarie M. (3)	222,200
Dorchester (3)	232,200	Rosie (8)	130,500
Drift (3)	408,800	Rush (4)	283,600
Eddie & Lulu M. (8)	105,100	St. Anna (6)	39,900
Elizabeth B. (3)	281,900	St. Francis (8)	115,300
Esther M. (3)	357,700	St. Joseph (Dragger) (4)	147,700
Estrela (3)	211,200	St. Joseph (L. Tr'ler) (2)	9,100
Ethel (7)	93,900	St. Peter II (1)	71,500
Eva M. Martin (7)	94,200	St. Theresa (2)	4,600
Eva II (8)	110,100	Salvator (5)	50,500
Famiglia (2)	45,700	Salvatore & Grace (2)	50,400
Fanny F. Hickey (8)	136,300	San Antonio (4)	23,600
Flow (1)	32,200	San Calogero (6)	116,800
Flying Cloud (2)	311,200	Santa Lucia (8)	96,800
4-C-887 (4)	9,500	Santa Rita (6)	23,700
4-E-885 (3)	5,400	Santina D. (2)	91,300
4-G-370 (5)	32,100	Sarah M. (3)	15,000
4-G-673 (6)	14,700	Savoia (5)	32,900
Francesca (5)	37,700	Sea Fox (3)	53,900
Geraldine & Phyllis (2)	137,500	Sebastiano & Figli (7)	96,800
Gudrun (2)	169,300	Serafina (1)	50,000
Ida & Joseph (1)	50,000	Serafina N. (1)	22,000
J. B. Junior (1)	28,300	Shirley & Roland (2)	38,900
J. B. Junior II (7)	100,500	Six Brothers II (4)	24,700
Joe D'Ambrosio (7)	87,200	Squall (3)	443,300
John G. Murley (1)	62,500	Stanley B. Butler (3)	246,300
Josephine (5)	53,500	Storm (2)	290,300
Josephine Ess (3)	265,000	Surge (2)	385,700
Josephine F. (5)	33,000	Swell (3)	309,900
Josephine P. II (3)	84,500	Texas (3)	182,300
Josie M. (9)	120,500	Theresa R. (3)	153,500
Junojaes (3)	207,000	Thomas D. (1)	41,000
Lark (2)	251,000	Thomas Whalen (3)	254,600
Leonarda (6)	86,000	Three of Us (1)	15,100
Leonard & Nancy (2)	46,300	Tide (3)	422,500
Liberty Belle (1)	14,200	Triton (3)	190,400
Little Nancy (5)	214,200	Two Pals (9)	115,000
Lorine III (2)	35,900	Uncle Guy (2)	71,700
Louise (2)	106,600	Venture II (1)	79,500
Lucky Star (3)	264,400	Victory II (2)	31,500
Lynn (3)	216,500	Virginia (3)	191,800
Maine (3)	198,800	Wave (2)	342,500
Margee & Pat II (2)	153,600	Weymouth (3)	278,900
Maria del Soccorsa (9)	124,500	Wild Duck (2)	151,000
Maria Guiseppe (7)	24,200	Wm. J. O'Brien (3)	198,900
Mariorie (5)	210,000	Winchester (3)	305,600
Marjorie Parker (2)	132,500	Winthrop (3)	230,600
Marsala (2)	53,400	Yankee (7)	133,700
Mary & Jennie (7)	102,500		

Scallop Landings (Gallons)

Charlotte M. (1)	1,000	Lillian B. (2)	440
Hazel B. (2)	1,350		

(Continued on page 40)

COULD YOU SELL

more fish?

Of course you can sell all the fish you can catch. But fish don't come to you, you have to go after them and the more time you have for fishing the more fish you have to sell. That is why INTERNATIONAL BOTTOM PAINTS are so popular with fishermen. These paints are most effective against bottom growth of all kinds. That means faster trips to and from the grounds. They are more durable so require less waste-of-time for repainting. Use INTERNATIONAL BOTTOM PAINTS and you will sell more fish. Send for color cards.

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Montreal, Quebec — 6700 Park Avenue
Vancouver, B. C. — 101 Powell Street

AGENTS IN EVERY IMPORTANT PORT

NEW BEDFORD

Adventurer (6)	122,400	Liberty (3)	53,700
Albatross (1)	33,900	Lt. Thomas Minor (5)	63,600
Alden (2)	14,000	Lisboa (5)	76,900
Alice May (3)	21,700	Little Chief (4)	47,000
America (3)	40,300	Lois (1)	2,000
Anna (4)	51,500	Lucky (2)	22,900
Annabelle R. (3)	47,400	Mabel Mae (2)	142,500
Anna C. Perry (4)	71,500	Madeline (3)	23,400
Annie Louise (4)	49,600	Magellan (3)	24,000
Ann & Marie (4)	23,700	Marge E. (3)	24,800
Automatic (3)	81,200	Maria Julia (3)	37,300
Barbara M. (3)	56,600	Marion M. (1)	7,800
Barracuda (2)	58,400	Marjorie (1)	20,000
Bernice (4)	36,400	Mary Ann (1)	19,000
Bozo (2)	19,700	Mary E. (1)	3,600
Capt. Deebold (2)	37,500	Mary & Joan (2)	64,500
Capt. Drum (1)	30,000	Mayflower (1)	9,300
Capt. Mel (1)	17,900	Mildred & Myra (2)	27,700
Carl Henry (2)	119,200	Minnie V. (2)	25,200
Carl J. (1)	12,500	Mishaum (3)	23,300
Carol & Dennis (4)	86,100	Molly & Jane (4)	72,700
Carolyn & Gary (5)	53,400	Nellie (5)	63,700
Catherine T. (2)	95,800	New England (4)	44,200
Charles E. Beckman (1)	9,000	Noah A. (4)	26,000
Clara T. (3)	13,100	Noreen (1)	72,000
Clifton (4)	28,100	Old Mystic (1)	14,400
Clinton (4)	65,300	Our Gang (1)	12,000
Clipper (3)	386,700	Pam Ann (1)	41,000
Connie F. (2)	27,500	Paolina (2)	71,700
Conquest (1)	8,000	Papoose (3)	45,800
Dauntless (4)	85,500	Patsy (1)	8,600
Doris (4)	19,200	Pauline H. (2)	124,400
Dorothy & Betty (3)	20,000	Penguin (2)	70,400
Driftwood (5)	49,000	Petrel (1)	6,100
Ebeneezer (3)	14,200	Phyllis (1)	17,400
Edith (2)	20,800	Phyllis J. (4)	70,200
Eleanor (1)	25,000	Pilhasca (1)	10,000
Eleanor May (4)	29,100	Polly N. (2)	6,000
Elva (5)	20,900	Portugal (2)	37,500
Elva & Estelle (3)	64,500	Pvt. Frank Kessler (5)	50,700
Elva L. Beale (3)	30,100	Prosperity (3)	20,300
Endeavor (3)	13,400	Quest (2)	15,300
Etta K. (1)	22,000	Randolyn (2)	15,200
Eugene & Rose (4)	115,700	Ranger (3)	35,100
Fairweather (4)	43,500	Rita (3)	71,500
Fan & Mary (1)	12,500	Rose Jarvis (2)	19,800
Five Sisters (3)	30,200	Rosemarie V. (4)	43,000
Fred Henry (5)	34,600	Rosie & Gracie (2)	16,000
Gannet (6)	154,900	Russell S. (2)	44,900
Gladys & Mary (3)	149,300	Ruth M. (2)	19,100
Grayling (3)	21,500	St. Anthony (3)	38,000
Gull (2)	16,500	St. Joseph (1)	15,000
Harmony (2)	31,300	Sandra & Jean (2)	48,500
Harold (3)	25,600	Santina (4)	18,600
Harvest (1)	4,400	Shirley & Roland (1)	16,400
Hazel S. (1)	8,300	Sister Alice (1)	10,000
Helen Mae (4)	19,400	S. M. Murtosa (5)	68,300
Hope (4)	73,300	Solveig J. (2)	154,900
Huntington Sanford (3)	38,000	Sonny Boy (1)	22,300
Idlewild II (3)	13,200	Sonny & Joyce (3)	17,600
Invader (2)	29,700	Southern Cross (2)	28,100
Irene (2)	16,500	Stanley & Son (1)	14,800
Irene & Walter (2)	25,100	Susan R. (1)	8,600
Ivanhoe (4)	138,200	Susie O. Carver (5)	90,600
Jacintha (2)	118,300	Teresa & Jean (2)	125,400
Jackie B. (2)	17,000	Theresa (5)	46,300
Jane Dore (2)	31,400	Three of Us (1)	14,200
Janet Elise (5)	35,700	Three Pals (4)	47,300
Jennie & Lucia (1)	20,000	Trio (3)	31,900
J. Henry Smith (4)	24,500	Turtle (5)	51,000
Joan & Ursula (4)	174,100	Two Brothers (6)	81,600
John G. Murley (1)	65,000	Vagabond (2)	24,300
Johnny Boy (3)	40,800	Victor Johnson (4)	100,800
Josephine & Mary (2)	85,300	Viking (1)	4,600
June Bride (2)	44,800	Viking (Chilmark) (2)	12,200
Kelbarsam (3)	32,500	Wamsutta (3)	124,500
Lainee K. (1)	8,800	Wild Duck (2)	123,700
Leah F. (1)	94,600	William B. (2)	22,300
Lera G. (2)	28,700	William Chesebrough (2)	43,100
		Winifred M. (6)	118,300

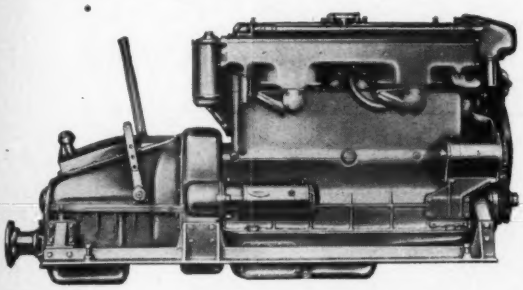
Scallop Landings (Gallons)

Abram H. (2)	2,000	Growler (2)	2,000
Adele K. (2)	1,600	Irene & Mabel (2)	1,300
Agda (2)	1,750	Janet & Jean (1)	1,000
Alpar (2)	2,000	Jerry & Jimmy (2)	2,000
Annie M. Jackson (1)	1,000	Kingfisher (2)	2,000
Antonina (1)	1,000	Liboria C. (2)	2,000
Antonio (3)	2,450	Linus S. Eldridge (3)	3,000
Arnold (1)	700	Louis A. Thebaud (3)	2,650
Arthur L. (1)	1,000	Lubenray (3)	3,000
Barbara (2)	1,700	Malene & Marie (3)	3,000
Beatrice & Ida (1)	1,000	Malvina B. (3)	3,000
Bobby & Harvey (2)	2,000	Marie & Katherine (2)	1,950
Bright Star (1)	400	Martha E. Murley (2)	2,000
Camden (3)	3,000	Mary Ann (3)	3,000
Captain 1 (2)	1,125	Mary Canas (2)	1,850
Carol & Estelle (3)	3,000	Mary D'Eon (2)	2,000
Catherine & Mary (2)	2,000	Mary J. Landry (2)	1,900
Christina J. (1)	1,000	Mary & Julia (1)	300
Connecticut (2)	2,000	Mary R. Mullins (2)	1,700
Dagny (2)	2,000	Mary Tapper (1)	950
Doris Gertrude (1)	1,000	Moonlight (2)	2,000
Dorothy & Mary (2)	2,000	Muriel & Russell (2)	1,800
Eunice-Lilian (1)	100	New Bedford (1)	1,000
Fairhaven (3)	3,000	Newfoundland (3)	3,000
Flamingo (2)	1,450	Olive M. Williams (2)	2,000
Four Sisters (2)	2,000	Palestine (2)	2,000
Francis J. Manta (2)	1,250	Pearl Harbor (1)	1,000
Friendship (2)	2,000	Pelican (3)	3,000
Gay Head (2)	1,700	Porpoise (3)	3,000
		Ramona (1)	1,000

(Continued on page 41)

Simple, Rugged, Dependable...

SIX CYLINDER 150 H.P. GRAYMARINE DIESEL



Model SIX D572—Bore 4¾", Stroke 5⅜"—Piston Displacement, 572 Cubic inches—Four Cycle—length 78". Weight 2650 lbs. Other sizes for smaller vessels, 35 h.p. and 55 h.p.—Welded steel mounting rails with alignment jacks, as illustrated, are standard equipment. Maximum Propeller speeds 400-2000 rpm.

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KEEL KOOLER

All Models of Gray Marine Diesels have Fresh Water Cooling System with choice of inboard or outboard heat exchanger. Shown above, Gray's new, trouble-free outboard heat exchanger.

GRAY MARINE MOTOR CO.
646 Canton Ave. Detroit, Mich.

R. W. Griffin, Jr. (1)	1,000	Ursula M. Norton (2)	2,000
St. Ann (1)	1,000	Venture I (2)	1,850
St. Rita (1)	600	Viking (3)	2,050
Sankaty Head (2)	750	Virginia & Joan (1)	700
Sea Hawk (2)	1,800	Whaler (3)	3,000
Sea Ranger (2)	2,000	Wm. D. Eldridge (2)	2,000
Shannon (2)	1,800	Wm. H. Killigrew (3)	3,000
The Friars (3)	2,550	Wm. J. Landry (1)	1,000

NEW YORK

Black Hawk (2)	32,000	Leah F. (1)	34,000
Felicia (2)	130,500	Old Mystic (1)	42,000
John G. Murley (1)	49,000	Teresa & Jean (1)	64,000
Katie D. (3)	132,500	Two Bros. (1)	20,000

Scallop Landings (Gallons)

Amelia (3)	2,000	Mary (3)	2,500
Anna O. (2)	1,400	Mary Ellen (2)	1,400
Antonina (1)	700	New Dawn (3)	2,100
Arnold (1)	600	Norland (1)	425
Arthur L. (2)	2,000	Norseman (3)	2,925
Buzz & Billy (3)	3,000	North Star (1)	900
Captain I (1)	500	Peerless (3)	1,800
Catherine C. (3)	3,000	Petrel (1)	600
Charlotte (1)	400	Rainbow (4)	3,150
Content (3)	1,700	Richard Lance (2)	1,900
Falcon (1)	700	Rosalie F. (3)	2,900
Florence B. (3)	3,000	St. Rita (1)	800
Friendship (2)	1,700	Sea Gull (1)	212
Gloria F. (3)	2,600	S #31 (3)	2,700
Gud Kay (1)	700	Sunapee (1)	1,000
Julia K. (2)	1,250	Venture (1)	700
Lady Stuart (1)	700	Victoria (3)	2,200
Major J. Casey (2)	1,950	Whaling City (2)	1,900
Maridor (1)	1,000		

Book on "Fishermen's Knots and Nets"

A profusely illustrated 224-page book entitled "Fishermen's Knots and Nets" has been compiled and written by Raoul Graumont and Elmer Wenstrom and published by Cornell Maritime Press of New York City. This book is packed with practical and valuable information for every commercial fisherman and includes a section for the sports fishermen as well.

All the methods of taking fish, employing lines, hooks, nets, seines, traps, whaling irons and harpoon lashings are covered. The hundreds of examples of ties and bends used to connect lines to the many types and kinds of hooks, leaders, lures, nets, traps and seines are so simple that all guesswork is eliminated.

LUDERSHIP MEANS LEADERSHIP

New Building, Repairs and Conversions

Our modern yard is conveniently located and fully equipped for prompt hauling and servicing of all types of commercial vessels up to 175 feet. Our railways handle up to 500 tons. Nearly 40 years' experience in designing and building fine yachts, commercial and Government vessels, both wood and steel, merits your attention for new construction or repairs.

LUDERS MARINE CONSTRUCTION CO.
Stamford Connecticut

Why Take Less Than FULL Protection?

Bethlehem trawler ropes have the life-prolonging, rust-resisting safeguard—BETHANIZED COATING. This is a zinc jacket that encases every wire . . . a jacket that will bend, bend, bend without cracking.

The bethanized "armor" keeps salt water and air away from the steel rope; seals the wires against their greatest enemy, rust.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

When you think WIRE ROPE . . . think BETHLEHEM

Equipment and Supply Trade News

Additional information, and copies of catalogs and booklets mentioned, may be obtained on request from the addresses listed in the items or by writing Atlantic Fisherman, Goffstown, N. H.

Large S-N Gear Described in Bulletin

The Snow - Nabstedt Gear Corp., New Haven, Conn., has described its larger model reversing gear suitable for engines up to 2800 foot-pound torque or 600 hp. at 1250 rpm. in bulletin 80-48.

A large model Snow-Nabstedt reverse and reduction gear.

This reversing gear is air-actuated. It can be controlled at any distance or from several stations by the use of a push-button finger-tip control. For this purpose, Westinghouse push-button valve is used.

Called the S-N safety finger-tip control, this design permits an immediate shift from fully automatic to fully hand or manual operation. The manual operating lever can be slipped into place instantaneously and the reverse and reduction gear can be operated in forward, neutral and reverse. This, of course, would only be necessary in case of air supply failure. Only 70 to 100-pound air is required for quick efficient operation.

These reverse gears incorporate the Joe's Husky double internal gear reverse drive which demonstrated high efficiency in the most gruelling war service. The reduction gears are of the S-N detachable type, with all herringbone gearing rigidly straddle-mounted in a one-piece detachable housing for quick change in ratio or direction of rotation.

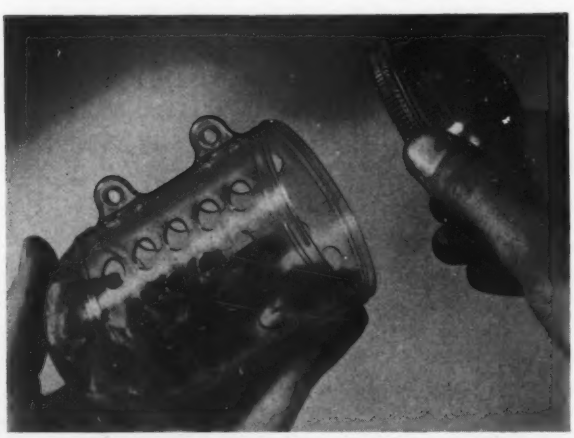
Ratios of 1½:1, 2:1, and 3:1 are available to turn either right or left hand propellers. A 4:1 ratio also will be offered in the near future.

New Plastic Crab-Bait Containers

Transparent Tenite plastic bait containers for crab traps are being manufactured by Plasticrab Bait Box Co., North Cove, Wash. Tenite is said to have low moisture absorption, and to be uniform and nonporous throughout, with a toughness that is capable of withstanding heavy impact. The plastic bait containers, it is claimed, last several seasons and effect a savings in bait.

The Tenite container is a perforated cylinder with rounded ends, one of which can be unscrewed for placing chopped clams or other fresh food inside. Bait is confined and cannot be devoured by the first crabs to enter the trap. The scent and small bits of the bait are accessible through the perforations. The container can be wired to the trap through two eyelets provided for that purpose.

The transparent plastic is an advantage over wood, because it allows the fishermen to inspect the bait without having to remove the container from the trap. It is stated that the Tenite crab-bait container, because of its construction and the toughness of the material, allows bait to remain alive for days.



A transparent Tenite plastic bait container for crab traps, manufactured by Plasticrab Bait Box Co., North Cove, Wash.

Sperry Controls for Packard Engines

A new engine mounting kit, Type HEO1, manufactured by Sperry Products, Inc., 1505 Willow Ave., Hoboken, N. J., provides packaged control for owners of Packard marine engines. Fittings supplied in the kit furnish a neat, rigid engine mount for hydraulic remote control receivers used in controlling throttle and clutch.

With the Sperry hydraulic remote control, throttle and clutch are operated instantaneously from any desired station on the boat up to a distance of 35′ and simplicity of the single-tube system makes installation an easy matter. Chrome-plated handles for the control station transmitters can be supplied as optional equipment and table mounting adapters also are available. Kit HEO1 is fully described in Bulletin 2901.

Universal Appoints Crafts Sales Manager

Universal Motor Co., Oshkosh, Wisc., has appointed L. H. Crafts to the position of vice president and general sales manager. Mr. Crafts comes to Universal with an extensive background of experience in the marine engine field, having been a general sales manager for Lycoming Manufacturing Co. for a number of years and later eastern sales manager of the Buda Company.

L. H. Crafts

During the war, he left Buda to take charge of the Washington office of the Sterling Engine Co. as assistant vice president and he served as a member of the Internal Combustion Engine Section of the War Production Board. Prior to joining Universal he has been acting as sales manager of the Curtis Marine Engine Co., Inc., Norfolk, Va., handling the sale of gasoline and Diesel marine engines.

Bishop Plastic Shipping Containers

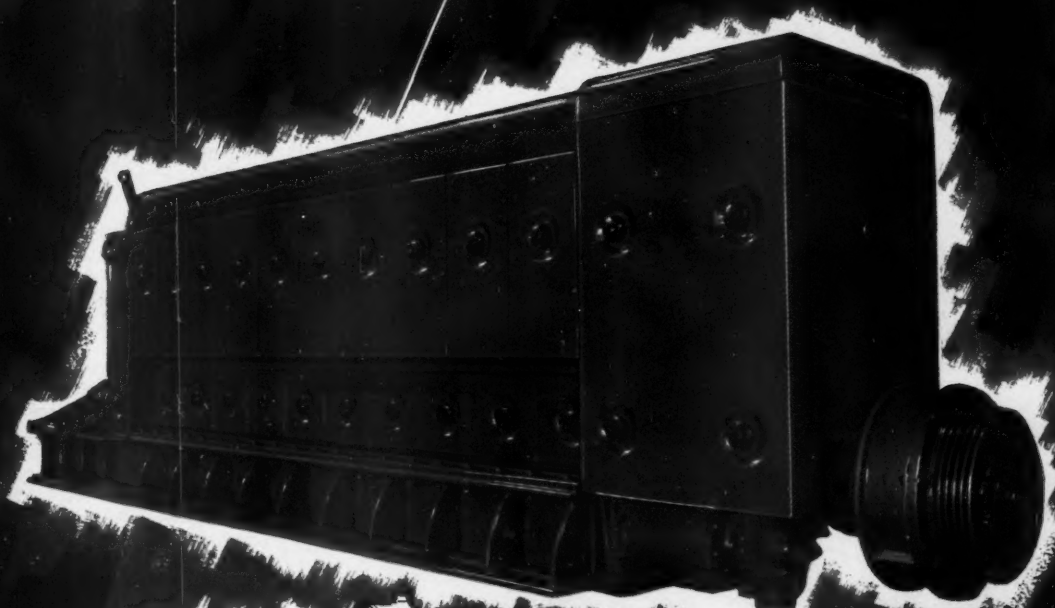
New food shipping containers made of a tough, thermoplastic material and insulated with light weight plastic foam, have been developed by United States Rubber Co. in conjunction with R. H. Bishop Co. of Champaign, Ill., who now has them in production.

The bottom, sides, lid, inner container and all internal bracing in the food shippers are constructed of the Rubber Company's Versalite, which is non-corrosive, has very low heat conductivity and is said to be lighter in weight than any other known material suitable for this application. Important features claimed of the thermoplastic material are high impact strength and a specific gravity of less than 1.1. All connections and seams in the containers are plastic welded to assure a strong, permanent pressure-tight bond, which also is designed to prevent any possibility of vapor transfer into the insulation space.

The shipping containers are completely insulated with Flotofoam, a plastic foam that weighs less than one pound per cubic foot. Because of its reportedly exceptional insulating proper-

(Continued on page 44)

MORE of what you've wanted...



LARGER, STURDIER REDUCTION GEARS . . .
You can use the larger, more efficient, low r.p.m. propellers because the sturdier gears take severe strains with direct-drive stamina.

SIMPLIFIED CONTROLS . . .
Pneumatic finger-tip remote controls to sailing clutch and forward end power take-off.

REVOLUTIONARY BEARING DESIGN . . .
New bearing material, practically indestructible. Main and connecting rod bearings interchangeable with identical upper and lower halves.

REMOVABLE CYLINDER LINERS . . .
With integral leakproof water jackets. Cylinder heads completely water-cooled.

To learn more about the Marine Diesel that has more of what you've always wanted, see your local Fairbanks-Morse Diesel expert

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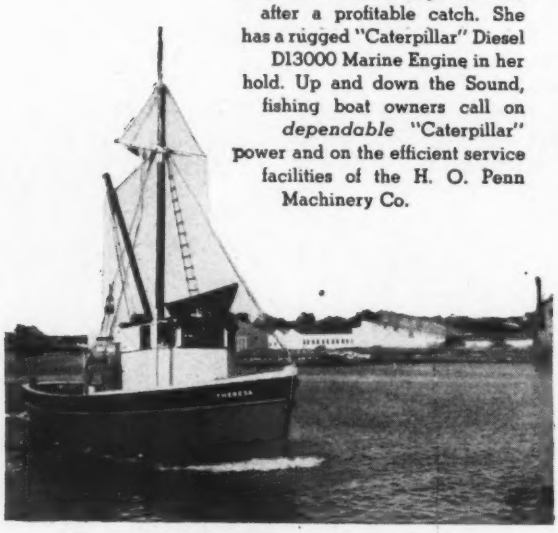
COOL RUNNING . . .
Heads, ring sections and skirts of pistons are oil-cooled. Full pressure lubrication to all moving parts.

HORSEPOWER RANGES . . .
From 175 to 480 horsepower —available with all required power auxiliaries.

MYSTIC FISHERMAN

Mystic is the Connecticut home port of the trim fishing vessel "Theresa", but there's nothing mystic about the power that drives her through the seas after a profitable catch. She has a rugged "Caterpillar" Diesel D13000 Marine Engine in her hold. Up and down the Sound, fishing boat owners call on *dependable* "Caterpillar" power and on the efficient service facilities of the H. O. Penn Machinery Co.



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INCORPORATED
NEW YORK, N. Y. MINEOLA, L. I. POUGHKEEPSIE, N. Y. NEWINGTON, CONN.

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RUBBER GARMENTS
FOR FISHERMEN

THE PIONEER
line of
LATEX CLOTHING
COMFORTABLE • ROOMY
DEPENDABLE
Made in Jackets, Pants, three-quarter Coats, Hats and Aprons.
DURABLE • LIGHTWEIGHT
Guaranteed Not to Stick

J. F. CARTER CO.
BEVERLY, MASSACHUSETTS

ties, the walls of the shippers can be made thinner than usual, thus increasing the storage capacity.

Temperature inside is said to stay unusually even during transit, since heat and moisture transfer is practically eliminated through the use of a special lid seal of cushioned synthetic sponge rubber. The only metal is in the handle, latches and skid strips.

One container, primarily designed for shipment of frozen foods with dry ice, has a maximum storage capacity of 4.66 cu. ft. Another, primarily designed for shipment of fresh foods with water ice, has a maximum storage capacity of 7.44 cu. ft. Weight of each, when they are empty, is about 75 lbs.

Packard Names Hoder Engine Manager

Frank J. Hoder, Jr., has been appointed manager of Packard Motor Car Company's marine and industrial engine department. For the past six years, he has been general manager and chief engineer of Marine Products Co.

A graduate of the University of Pennsylvania, where he took his degree in mechanical engineering in 1934, Hoder that year went with the Superior Engine Division of the National Supply Co. in a developmental post. Two years later, he was placed in charge of the Division's experimental and research department, and held that position until 1939.

After one year in sales with an industrial engine distributor in Philadelphia, Hoder became a consulting engineer under contract to the U. S. Navy's Bureau of Ships, until 1942.

Frank J. Hoder, Jr., new manager of Packard's marine engine department, holds a Packard Marine Calculator, available at distributors and dealers. The calculator determines propeller size needed to attain desired speed, indicates speed-slip percentages, and converts elapsed time over a measured mile into both miles-per-hour and knots-per-hour.

Willard Trains Sales Representatives

Willard Storage Battery Co. is training sales representatives through an exhaustive two-week course at the Company's home office Sales Training School in Cleveland.

During the first week of their study, which is devoted to the technical phases of battery making, the men are shown full details of Willard production. They learn how to build a storage battery, they study exclusive features of Willard batteries and are conducted on an intensive tour of the Company's Cleveland plant, learning how Willard batteries are produced in quantity.

In the second week of their training course they learn details of Willard merchandising and advertising and will finish the course fully trained to sell and service Willard products.

Jefferson-Travis 75-Watt Telephone

Jefferson-Travis, Inc., a pioneer in the field of marine radiotelephone with equipment to meet the specific requirements of commercial fishermen, has announced the addition to its line of a new 75-watt radiotelephone, Model 751. Compactness and low standby power drain are featured in this unit.

Its five channels are fixed-tuned and crystal-controlled. For the complete elimination of background noises, a squelch circuit in combination with a peak noise limiter circuit provides maximum ease and listening comfort during operation. Meter and light indicators provide an easy check on operation. The approximate dimensions are 21" high, 15¾" wide, 11½" deep.

One of the features in the merchandising of this unit is a plan which enables dealers to offer trade-in allowances to commercial fishermen desiring to replace lower powered equipment with the new Model 751.

Rochester Makes Nylon-Coated Cable

Rochester Ropes, Inc., Culpeper, Va., has gone into commercial production of Wirelon, a nylon-coated wire rope. Although chemically similar to the nylon used in women's hose, the Du Pont nylon coating on Wirelon is not woven or filamented, but solid and is claimed to be extremely tough.

The plastic coating helps reduce the possibility of the rope's birdcaging, fanning out, or kinking when strains are suddenly applied, and protects against injury from steel splinters. It is said to be unaffected by oils or marine growths and to retain its flexibility whether wet or dry. When a Wirelon cable was examined after a fatigue test of 60,000 reversals, only one broken wire was found in the entire rope, according to the manufacturer, and other tests reportedly show that the ropes operate well at high and low temperatures.

Wirelon will be available in diameters ranging from 1/32 inch to 1-inch or greater. The coating is being used by Rochester in the manufacture of three distinct types of rope. In the first, nylon is extruded onto single strands of wire, which can then be used in many services where fully formed ropes were heretofore required. The second type is more flexible and is made by applying the plastic to the outside of wire ropes that are already completely formed. Still more flexible than either of the other types, is nylon-wire rope made by the third method, in which individual strands are coated with nylon and the coated strands then closed into a finished rope.

Progress Against Lamprey

(Continued from page 17)

streams entering Lake Huron north of Saginaw Bay, and in only one drainage emptying into Lake Superior.

Included in the study of the sea lamprey is an attempt to devise successful methods of processing the eels for food. This is being done by Michigan State College. In several European countries, lampreys at one time were considered a very rich delicacy. In those days, lampreys were either smoked or pickled and served on the tables of the very rich, but early American fisheries operators gave little attention to the commercialization of the eel-like pirate. Although a New England fish dealer is reported to have processed and sold pickled lamprey put up in glass jars. At that time, however, the scarcity of lampreys rendered the price far too high for the average person.

It appears that any attempt to control the sea lamprey must be at spawning time. Construction of weirs, traps and other devices capable of doing the job would not only require an unthinkable expenditure but would necessitate constant vigil by skilled attendants who would destroy the lampreys and keep the desirable fish moving safely upstream to spawn.

In the past, many fishermen have falsely reported sea lamprey. The sea lamprey should not be confused with the four native species of lampreys which are relatively harmless. A spawning adult can be distinguished from native species principally by coloration and size. They run from 14″ to 30″ or more. Sea lampreys have upon their backs a marbled mottled coloration of brown and black blotches over a grey or yellow background. Dorsal fins are definitely separated, while native lampreys possess a continual dorsal fin. Although the brook lamprey has two separate dorsal fins, they are not as widely separated.

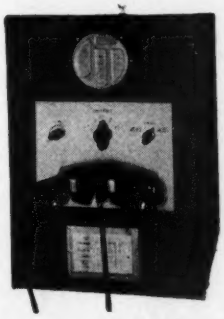
All lampreys are identifiable by their smooth, scaleless snake-like bodies, the presence of seven puncture-like gill openings on either side of the head, a single nostril on the top of the head, and a vacuum-cup mouth with horny teeth radiating in all directions within the interior. They have no jaws.

Its method of attack is quick, like a shark, and similar to an octopus, it clings to its victim by its suction-cup mouth. The sea lamprey rasps holes with its tongue and teeth through scales and skin into the flesh of the fish where it sucks away the blood and body juices, leaving its victim so weak that death is almost inevitable. In many cases, however, the victim fish shakes the lamprey before it has been robbed of its energy. Commercial fishermen have repeatedly complained of marked and mutilated lake trout which bore evidence of sea lamprey attack.

If we are to save our Great Lakes fishing industry from being virtually destroyed by this pirate fish, we must urge Congress to furnish more funds to give this investigation added impetus.

All-Ways Dependable
JEFFERSON-TRAVIS
Marine Radiotelephone

1948 75 WATT SET



PROFIT AT SEA WITH A NEW J-T

For greater economy of operation, for increased productivity and for extra safety, progressive commercial fishermen are realizing the advantages of a high powered Jefferson-Travis radiotelephone installation.

ANNOUNCES 75 WATT MODEL

The new Jefferson-Travis Model 751 provides 75 watts with a lower standby power drain than less powerful sets on the market. Compact—self-contained—squelch control and automatic noise limiter circuit provide real listening comfort. Meter and light indicators give absolute checks on operation.

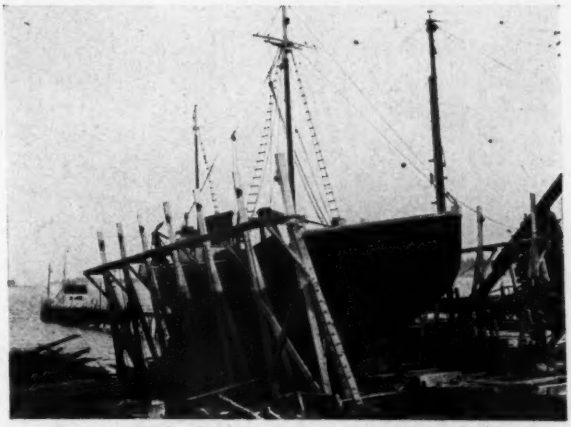
Write for new pamphlet "35 Honest Watts," describing Model 351 designed to meet the specific requirements of commercial fishermen and your boat. Ask us about liberal trade-in allowances. Replace low powered or pre-war equipment with a new J-T Model 351 or 751.

Factory trained and approved service dealers along the entire New England coast assures better service, lower maintenance costs and greater dependability to J-T users.

NEW ENGLAND DISTRIBUTOR

MARINE HARDWARE AND SUPPLY CO.

390 ATLANTIC AVE. BOSTON, MASS.



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COMPLETE REPAIR FACILITIES

Our all-around service includes all types of engine overhauling and repairs, rigging service, hull repairs and alterations, electrical work, etc. Your entire job can be done quickly in our yard by experienced men.

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Shipbuilders

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PUT THE SCREWS ON OPERATING COSTS!

MICHIGAN MACHINED-PITCH PROPELLERS

— and these are the screws that can do it. Michigan Machined-Pitch propellers are scientifically designed to convert every last bit of horsepower into Push — smoothly and surely. Built of Michalloy, the alloy that's highly resistant to corrosion and hard knocks —Michigan Wheels deliver the goods, or the fish, as the case may be.

Michigan Wheels pare costs, produce profits.

So. Carolina Out-of-State Fee Illegal

The U. S. Supreme Court on June 7 declared unconstitutional two South Carolina shrimp fishing regulations but affirmed the validity of two others attacked by out-of-State trawler operators. The unanimous opinion held illegal a $2,500 license fee imposed on non-South Carolina fishermen, as compared to a $25 fee for South Carolinians. The Court held the regulation amounts to discrimination, which is forbidden by the Constitution. A requirement that all shrimp be unloaded in South Carolina for packing and further shipment also was ruled illegal on the ground that it impedes the free flow of interstate commerce.

The Court ruled legal the one-eighth-of-a-cent tax on shrimp taken in offshore waters and a South Carolina income tax on non-residents who profit from their operations in South Carolina waters.

Five Georgia commercial shrimpers and the Atlantic Sea Food Producers, Inc., a Florida fishermen's group, had attacked the South Carolina laws. They appealed from a special three-judge Federal court ruling at Charleston, S. C., which upheld all four regulations. It is believed that the decision may have effect on other States which have high non-resident fees.

Tax Refund Obtainable on Boat Gas

As the result of an amendment to its gasoline tax law, effective July 1, South Carolina has made it possible for purchasers to obtain a refund of 5c of the prevailing 6c per gallon tax on gasoline used in motor boats and water craft.

Before making purchases of gasoline on which refund will be claimed, the purchaser must file an information blank of prescribed form with the South Carolina Tax Commission.

Texas Bans Netting in Two Bays

As the result of a ruling by the Texas Attorney General, it now is illegal to use nets for fishing in St. Charles and Puerto Bays. The ruling followed a request by the Texas Game, Fish and Oyster Commission that such action be taken.

Netting in these Bays was made legal in 1943 by the Texas Legislature, which suspended a law then in effect. The suspension was for two years or for the duration of the war.

Fined for Not Obtaining Non-Resident License

A shrimp fisherman employed by Vincent Depuglio of Galveston was fined $300 recently at Corpus Christi for operating the shrimper *Frances Olga* in Texas waters without a Texas non-resident commercial fishing boat license. The State now is endeavoring to collect $35,000 from Depuglio for licenses on 14 trawlers. The Texas Supreme Court has held that the State statute which sets non-resident commercial fishing boat licenses at $2,500 is constitutional.

The State also asked the court to ascertain the value of shrimp, crabs and oysters taken by the Depuglio boats and for judgment for the value of the seafoods.

To Study Effect of Sediment on Marine Life

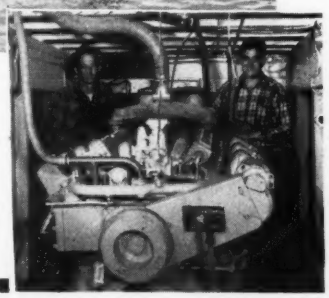
Bill Wilson, graduate of A. & M. College, will study what effect the deposition of sediment by dredges, oil wells, and other sources has on marine life in Texas bays, with especial attention being given to its effect on the oyster. The work will require the use of sediment traps, core samples, and dyes in determining flow of current and depth of sediment.

New Species of Sea Bass

A fish that biologists at Rockport's marine laboratory were unable to identify was sent to Dr. Isaac Ginsburg of the U. S. Natural Museum, who said it represents an undescribed species of sea bass. The fish will be placed in the Museum together with 19 other species from the Atlantic and Gulf Coasts.

Seafood Production

A total of 1,320,962 lbs. of marine products were landed at Texas ports during April. Of this amount, 1,036,114 lbs. were shrimp; 1,555 lbs. oysters; 11,825 lbs. gaff-topsail; 133,472 lbs. red snapper; and 40,950 lbs. trout.



Captain Manuel DeMello and his engineer are proud of their new Caterpillar Diesel Engine in the "Liboria C".

"Caterpillar"

Dependable Diesel Engine

Now Powers the "Liboria C"

THE 72 ft. "Liboria C", out of New Bedford, is now equipped with a new D17000 Caterpillar Marine Engine with 2 to 1 Reduction Gear, which turns a 46" diameter by 32" Pitch Propeller.

In addition the Caterpillar Engine powers the trawl winch and drives a 1½ KW generator.

Captain Manuel DeMello sails with confidence with Caterpillar Power, and he is always sure of friendly PEMCO SERVICE.

PERKINS-EATON MACHINERY CO.

376 DORCHESTER AVE. BOSTON 27, MASS.
TEL. SOUTH BOSTON 8-4660

Corrosion resisting Monel* Fastenings come in all shapes and sizes!

HOW MANY TIMES have you wished for fastenings like these? Made of Monel*, they resist rust, corrosion, heat, shock, vibration and overstressing. Send for list of distributors.

*Reg. U. S. Pat. Off.

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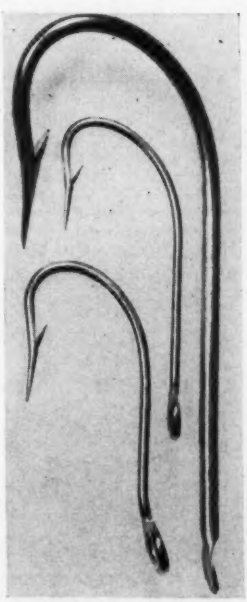
They Will Save You Money, Skipper!

They will save you fish as well — and the time and trouble of honing and repairing hooks. Examine

MUSTAD Key Brand **FISH HOOKS**

at your fishing supplies dealer. Try them for sharpness, strength, flexibility, temper, precision of pattern, size and workmanship. They can't be beat.



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is the steadiest for any boat, sail or motor.
The new CORSAIR Spherical Compass with built-in lighting and correctors, is ideal for inshore boats.
High performance, low cost $31.50
Write for descriptive circulars

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90 STATE STREET, BOSTON 9, MASS.
NEW YORK 38 Water St.
BALTIMORE 146 N. Gay St.
LONG BEACH, CAL. 4645 Faculty Avenue

NEW BEDFORD

Heavy Yellowtail Catch

The heaviest catch of yellowtails to be landed at New Bedford in four years was a 125,000-pound trip brought in recently by the New Bedford dragger *Clipper*. The vessel, owned by Jack Golf, also had 18,000 lbs. of other species aboard. The yellowtails were caught on Middle Grounds, East Nova Scotian Banks, and sold for 4.5c a pound.

Seventy-six scallopers, an increase of 8 over May, made 147 trips out of New Bedford in June and brought in 134,725 gallons of the bivalves. This was a gain of 32,390 gallons over May, when 102,335 gallons of scallops were landed. Thirteen boats took their 3,000-gallon limit during the month, whereas in May only 4 boats got their limit.

Total New Bedford landings fell off almost 1,000,000 lbs. in May compared with the same month of 1947. The catch for May of this year was 7,997,603 lbs., as against 8,956,603 lbs. a year ago. The value of the May, 1948 catch was $1,038,241, of which scallops accounted for $443,459.

Changes in the Fleet

Casey Boatbuilding Co., Fairhaven, is reconverting Fredrig Nicodemasen's 80′ *Elizabeth N.*, recently returned by the Navy, and expects to have her ready to go scalloping out of New Bedford by the end of July.

Work on the North Carolina dragger *Randolyn*, which put into New Bedford June 19 on her maiden trip, has been underway at Casey's and at Hathaway Machinery Co., Fairhaven. It is understood that the vessel, which originally was rigged for redfishing, will add new nets and equipment and go yellowtailing out of New Bedford for the next several months.

Knut W. Knutsen of North Dartmouth has had his 65′ dragger *Lannie K.* at Hathaway's for installation of a 150 hp. Murphy engine.

The New Bedford scalloper *Christina J.* was pulled off rocks on Hen and Chickens Shoal June 15 after being buffeted there for eight hours, and has been at Casey's for repairs. The 72′ vessel was one of many New Bedford boats which have run into trouble in fog recently.

The dragger *Nashawena* was reported a total loss in June after going ashore on No Mans Land in fog. Capt. Peter Foley and a crew of three were rescued. The vessel, valued at $23,000 and partially insured, is owned by Manuel Sylvia, Joseph Barton and Harold Hickey.

Palmer Scott & Co., Inc. of New Bedford have installed a 165 hp. Gray Diesel in the Seaview Fish Company's 55′ scalloper *Alva*. The yard also has been repairing the dragger *Etta K.*, which recently was damaged by fire.

The New Bedford scalloper *Freddie and Matthew*, owned by Leon I. Dobson, recently was sold at auction in Newport, R. I. to Max Fox of New Bedford.

Two Processing Firms Under New Ownership

The New Bedford Fillet Co., which is located on Homer's Wharf, has been purchased by Thomas Aiello of Aiello Fish Co. The firm now will be known as the Aiello Fish Corp.

Leo Allen, who formerly was connected with the New Bedford Fillet Co., has bought the Cape Cod Fillet Co. and is operating the firm under the name of New Bedford Fillet Co.

Classes in Engineering

Classes in engineering will start at the New Bedford Vocational School in October, with priorities being given to veterans already engaged in fishing. According to Edmund J. O'Neil of the Seafood Producers Association, the classes will result in making the fishing industry in New Bedford safer by turning out well-trained engineers for the future.

Memorial Service to Be Held

A memorial service for New Bedford fishermen lost at sea is expected to be observed the end of July on City Pier 3. The ceremony, held for the first time in New Bedford last Winter, hereafter will be held in the Summer.

"Albatross" Tests Cod Ends

Studies of the escapement of small fish through a large-mesh cod end were continued by the Fish & Wildlife Service vessel *Albatross III* on her fourth cruise, from June 21-27. The cruise, longest made so far by the newly-commissioned research vessel, took the ship to eastern Georges Bank. Fourteen stations were occupied at various locations on the Bank to obtain live haddock, and a 1½ Iceland net fitted with a 4⅝" mesh cod end was used on all tows. The cod end was covered with a fine-mesh netting, so that all fish which escaped through it were captured. Haddock from the fine-mesh cover and from the large-mesh cod end were tagged to test the survival of fish that have passed through the cod end.

A total of 332 haddock were tagged on the gill cover with ½" celluloid disc tags, and measurements of fish length and scale samples were taken from the other important species of fish captured. These data will be used to study the growth of the fish.

At the conclusion of the experiments with large-mesh nets, a comparison of nets with and without rollers and with fine-mesh liners was started. These nets will be used in later work on making a census of the fish populations on Georges Bank.

Effects of Fresh-Water on Spawning

(Continued from page 16)

indicates that fresh water, in itself, does not directly affect the production of spawn in the gonad.

The first reaction of the oyster to fresh water is to close its valves tightly, automatically cutting off its food supply. Hence, the survival of the animal and its ability to reproduce is going to be a function of how long it can exist without additional nourishment. The more reserve food it has on hand in the form of glycogen, the better will be its chances for not succumbing to seasonal flood conditions.

There are, of course, factors concerned here other than the simple fact that the shells may be kept closed. The decreased food supply might just as well be due to absence of food from the water, or to the inability of the oyster to collect it because of impairment of ciliary action, or even to the oysters' inability to digest food when it is so swollen from the absorption of fresh water. In the final analysis, however, the delay in the production of spawn would appear to be the result of tissue starvation.

The small group of oysters which survived better and did produce spawn normally are of considerable interest to us. The reasons for their having had more stored food than the majority of the population is not clear, but if we may assume that this sample was representative of oyster populations in general, we have a better understanding of the comeback which many oyster bars have staged in the past. In these cases, oyster bars which had become suddenly barren through natural causes have been observed a few years later to be densely populated with young oysters. The remnants of the former population because of their inordinate productivity were able to cope with such natural disasters in a relatively short time and thus perpetuated the species.

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Vineyard Bailings

By J. C. Allen

A month ago we said that the signs and portents looked good although we didn't dare make any predictions. Today, with June dropping astern, we still say the signs look good, but again we make no predictions. Understand, when we say the signs look good, we are referring to fish—not any one particular kind of fish, but just fish.

Being an old-timer, we realize that there must be a whole gang of sea-skimmers who fail to follow our reasoning. They cannot recall the older practices which we remember, and success between four and forty fathoms is spelled in just three words for plenty of 'em—lots of fillets.

Heavy Run of Scup

So far this season we have had a very heavy run of scup, with the heft of these fish being taken by small, fast otter trawlers which have kept the market loaded. The price of scup as yet has not dropped as low as we have seen it commonly, although it has been necessary once or twice for the dealers to ask the boys to slack up a mite and give 'em a chance to clear the piers.

Mackerel have been running well, and seiners which have been operating in this area have had a good slant at 'em. This is the latest time on record for big, unmixed mackerel to be schooling in these waters. The price has varied, naturally, but it hasn't sagged all to the devil, at that.

Outlook Promising for Surface Fish

Plenty of bait, from the spirling the size of a pencil stub up to menhaden and squid, makes things look very promising for all kinds of surface fish such as bonito, blues, and more mackerel, squeteague and the like.

But it should be observed that groundfish, of the sole variety, have not been showing up well, and this is a serious matter. There have been almost no yellowtails taken in these waters for months; the blackback Winter flounder has not been running too well; and guard only knows how the fluke will be, because the bottom has been scraped offshore all through the Winter, digging these fish out of the mud and probably interfering with their natural movement inshore.

So we say it is serious, and it ought not to be so. In our youth, the average boat fisherman was equipped with hand lines, ground trawl, and a sweep seine. Some of them had small purse seines, too, and they knew how to use them all. It was the rule then, as it always has been, that fish came and went, and that there were scarcities of some varieties all the time. But there were plenty of fish, by which we still mean all kinds of fish. And by this token, the fisherman was all set to go out and make a dollar regardless of what happened to be running, or where.

But today it is different and that is why it is serious. With a fleet all equipped for groundfishing alone, plenty of the boats can't even chase the scup successfully. As for the mackerel, they are completely out of luck, and more than anything else, they hate to leave the groundfish even for a day because of the price that they bring.

Too Much Specialization

Nothing has happened as yet to change our opinion, which is this: There are just as many fish alongshore as ever, and the overall catch can be just as heavy as ever, if men take 'em as they come. But we believe there are some things that they can't get away with indefinitely.

They can't specialize on certain varieties; they've got to use 'em all. They can't reserve certain species for sport fishing only; those fish are a part of nature's own food supply. They can't fit out for just certain kinds of fishing and ignore other methods, because all methods are necessary if all kinds of fish are to be marketed. And they can't expect to take more fish from any area simply by putting more boats and vessels to work. There are just so many tons of fish available on a certain ground during a particular period.

New Brunswick Report

By C. A. Dixon

First Quarter Landings Show Value Increase

The official figures for Canadian fish production during the first three months of this year show that the value of the catch totalled $8,000,000, as compared to $5,300,000 in the first three months of 1947, or an increase of $2,700,000. Landings of cod, haddock, pollock and other groundfish on the Atlantic Coast showed sizable gains, with a corresponding increase in landed value. More cod was smoked and frozen in the filleted form than a year ago, and production of fillets of haddock and other groundfish increased. Practically the entire take of lobsters was sold in the shell.

Imports of fresh and frozen cod and other groundfish from Newfoundland, pickled herring from the United States and canned sardines from Norway all showed an increase over imports in the same period of 1947. Exports of fishery products for the first quarter amounted to $23,800,000, as compared to $20,500,000 in the first three months of 1947.

Campobello Pollock Fishing

During the early part of June Campobello pollock fishermen did well, and received an average of from 25 to 30c for each fish they caught. Some days the fishermen caught as many as 75 fish each, which was considered quite satisfactory as the pollock fishing ground—Green Island Shoal—can be reached by the powerboat fleet in a few minutes' time from the breakwater at Wilson's Beach. However, toward the end of June the price paid for pollock dropped to as low as 15c each, and the fish became scarcer.

Wilson's Beach is the principal line fishing port of Southern New Brunswick, rivalled only by White Head, one of the Grand Manan group of islands where line fishing is a major industry.

Jackson Bros. of Wilson's Beach have re-established their fish trucking service from that fishing port to Portland, Me., via the Campobello-Lubec automobile ferry which has been operating since early Spring.

June "Off Month" for Sardine Herring

After having enjoyed unusually good fishing during the month of June for several seasons past, Southern New Brunswick weirmen this year saw the month revert to its original status as an "off month". Difficulty was experienced in procuring sardine herring in quantities sufficient for even part-time work in Charlotte County canneries, and the scarcity was felt to a certain degree in the factories across the border in Eastport, Lubec and other eastern Maine towns. The latter canneries, however, were fortunate in that for a time they received large supplies of sardine herring from Maine Coast fishermen.

Me. Sardine Packers Guests of Board of Trade

Several members of the Maine Sardine Packers Association were guests of the Charlotte County, N. B. Board of Trade at the organization's June meeting, held at St. Andrews on the 22nd. About 150 members of the Board attended the meeting, presided over by D. J. McLean of Black's Harbor.

The principal speaker was Sumner T. Pike of Lubec, Me., a member of the United States Atomic Energy Commission. Among other speakers who addressed the meeting was Verne McFadgen of the William Underwood Co., Jonesport, Me., who spoke for the Maine sardine packers. The state of harmony which exists between the fishermen and canners along the Maine-New Brunswick border was praised by the speakers.

Onslo L. Haney Dies

Onslo L. Haney, 77, well-known Deer Island weirman, died during June. For many years Mr. Haney owned and operated one of the best sardine weirs of his district, located in the vicinity of Doctor's Cove.

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*Northill Co., Inc., Los Angeles 45, Calif.

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"Exide": Electric Storage Battery Co., Allegheny Ave. and 19th St., Philadelphia, Pa.
*Surrette Storage Battery Co., Salem, Mass.
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*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

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American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.
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*The Edwin H. Fitler Co., Philadelphia 24, Pa.
*New Bedford Cordage Co., 233 Broadway, New York, N. Y.

DEPTH FINDERS
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*Bendix Aviation Corp., Pacific Div., 7551 Melrose Ave., Hollywood 46, Calif.
*Bludworth Marine, 100 Gold St., New York 7, N. Y.
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*Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
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Lorimer Diesel Engine Co., 16th & Wood Sts., Oakland, Calif.
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*R. J. Ederer Co., 540 Orleans St., Chicago, Ill.
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*The Linen Thread Co., Inc., 105 Maplewood Ave., Gloucester, Mass.
*Moodus Net & Twine, Moodus, Conn.
New England Fishing Gear Co., 301 Eastern Ave., Chelsea, Mass.
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A. M. Starr Net Co., East Hampton, Conn.

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Sounding-Lead

(Continued from page 9)

enabling the Greek fishing industry to make a greater contribution to the domestic food supply.

Plans for the expansion of Argentina's relatively minor fishing industry will be formulated soon, Dr. Carlos Gonzalez of the Argentine Ministry of Agriculture stated recently in Washington. Dr. Gonzalez has just completed a year's study of U. S. fishery economics under the supervision of Fish and Wildlife Service officials. His study emphasized the fishery problem from the Government's point of view, rather than from private industry's. It included fish inspection techniques, preparation and distribution of fishery statistics and market news, sanitation methods in commercial fisheries, and Government conservation of fishery resources.

Two Latin American Government officials have begun a three-month tour of Fish and Wildlife Service facilities in the continental United States. The officials—Dr. Ergasto H. Cordero, director of the National Museum of Montevideo, Uruguay, and Fernando Obregon, a fishery expert in the Mexican Ministry of Marine—will tour the United States under the sponsorship of the Department of State and the Fish and Wildlife Service.

TYSON TO ERP—Robert Tyson, State Department official in charge of preparation of the North Atlantic treaty, on July 1 was appointed to the Economic Cooperation Administration (ERP) as a Commodity Programs Adviser to Dr. Fitzgerald, who heads up the food division of the organization. While Tyson will deal with a number of commodities, his chief work for some time will be with fishery products. Prior to his appointment in the State Department, Tyson was chief of the Fish Products Division in the Department of Agriculture.

FISH PUBLICITY—The National Fisheries Institute has placed an order for a series of book matches which will describe 20 of America's best known fish by word and colored picture. Each of the series will carry a detailed recipe for cooking the species discussed.

According to the Institute, the principal objective of the campaign is to make the American housewife "species conscious." Another aim is to teach reliable recipes to those who do the family cooking. The Chinook salmon and the Atlantic mackerel are numbers one and two of the series, which was planned by Charles E. Jackson, general manager of the Institute.

The matches will be shipped by the manufacturer on order of the Institute to fish processors, canners and producers who will distribute them to such retail outlets as fish markets, hotels and restaurants for presentation to customers.

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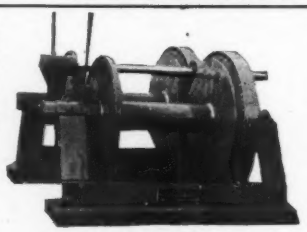
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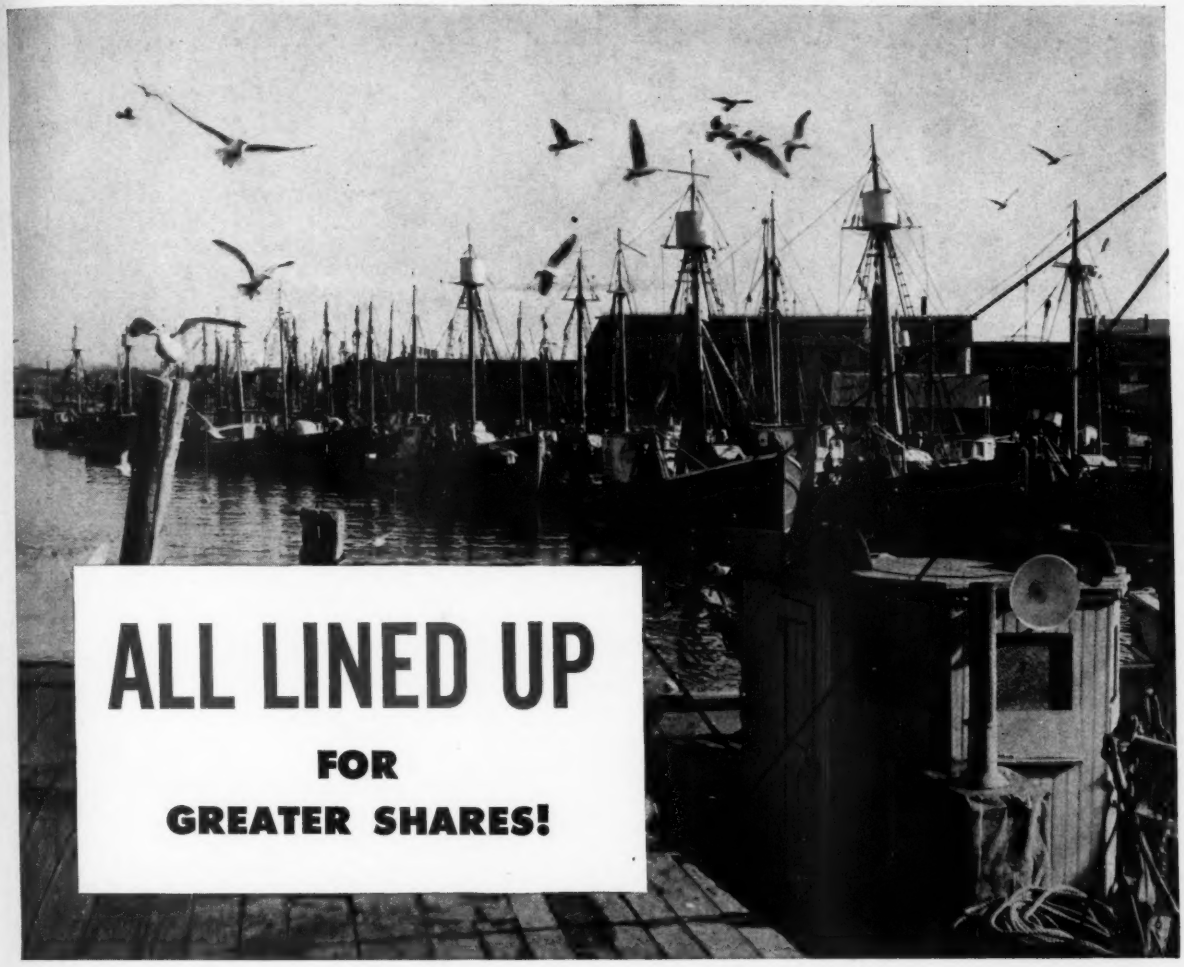

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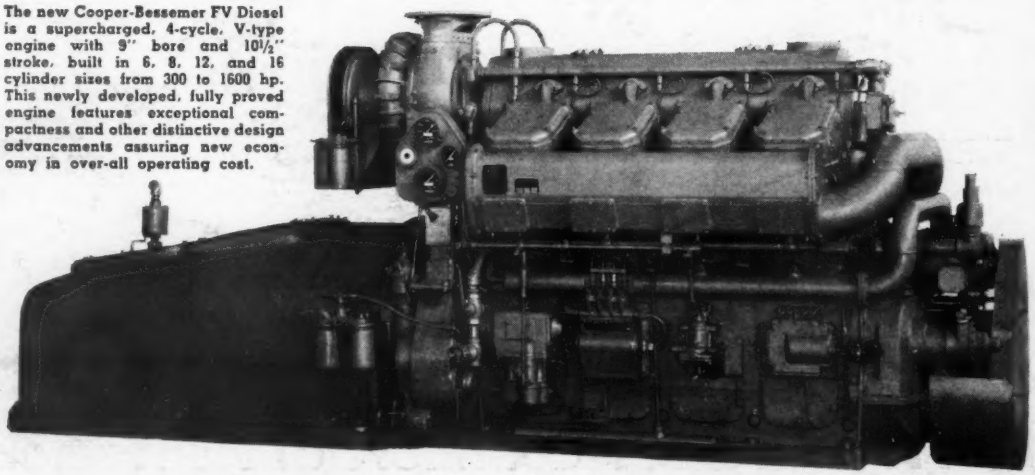

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